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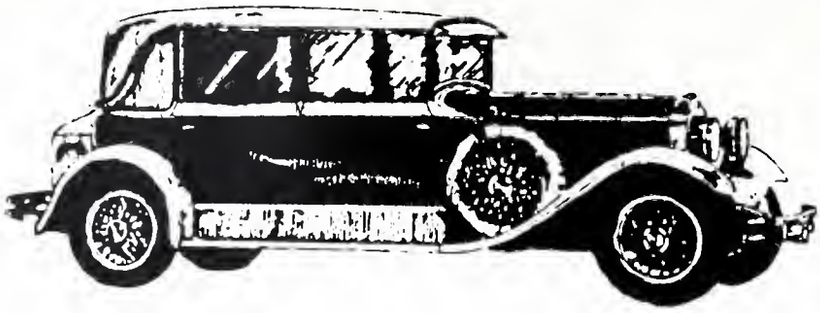
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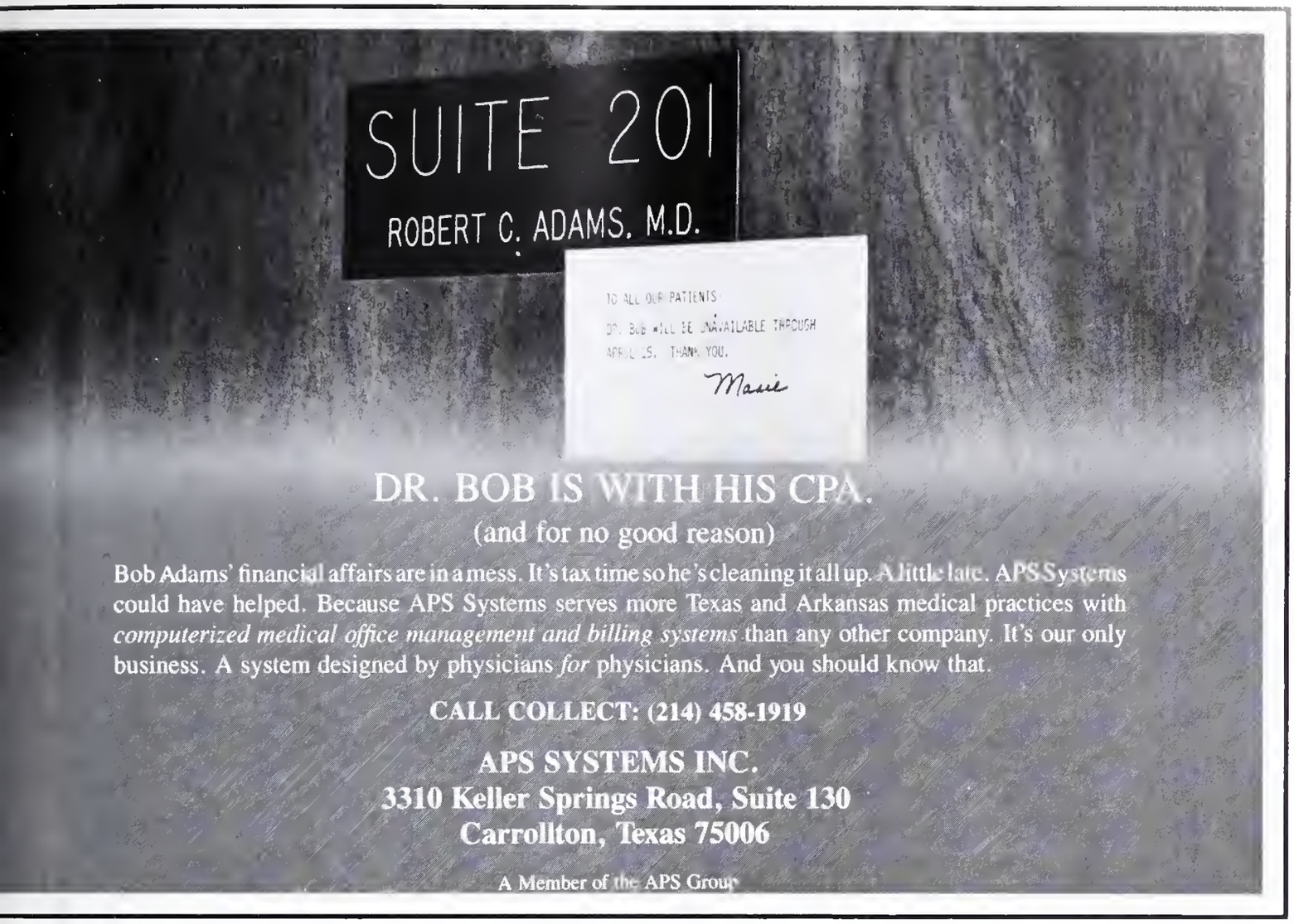
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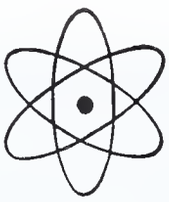
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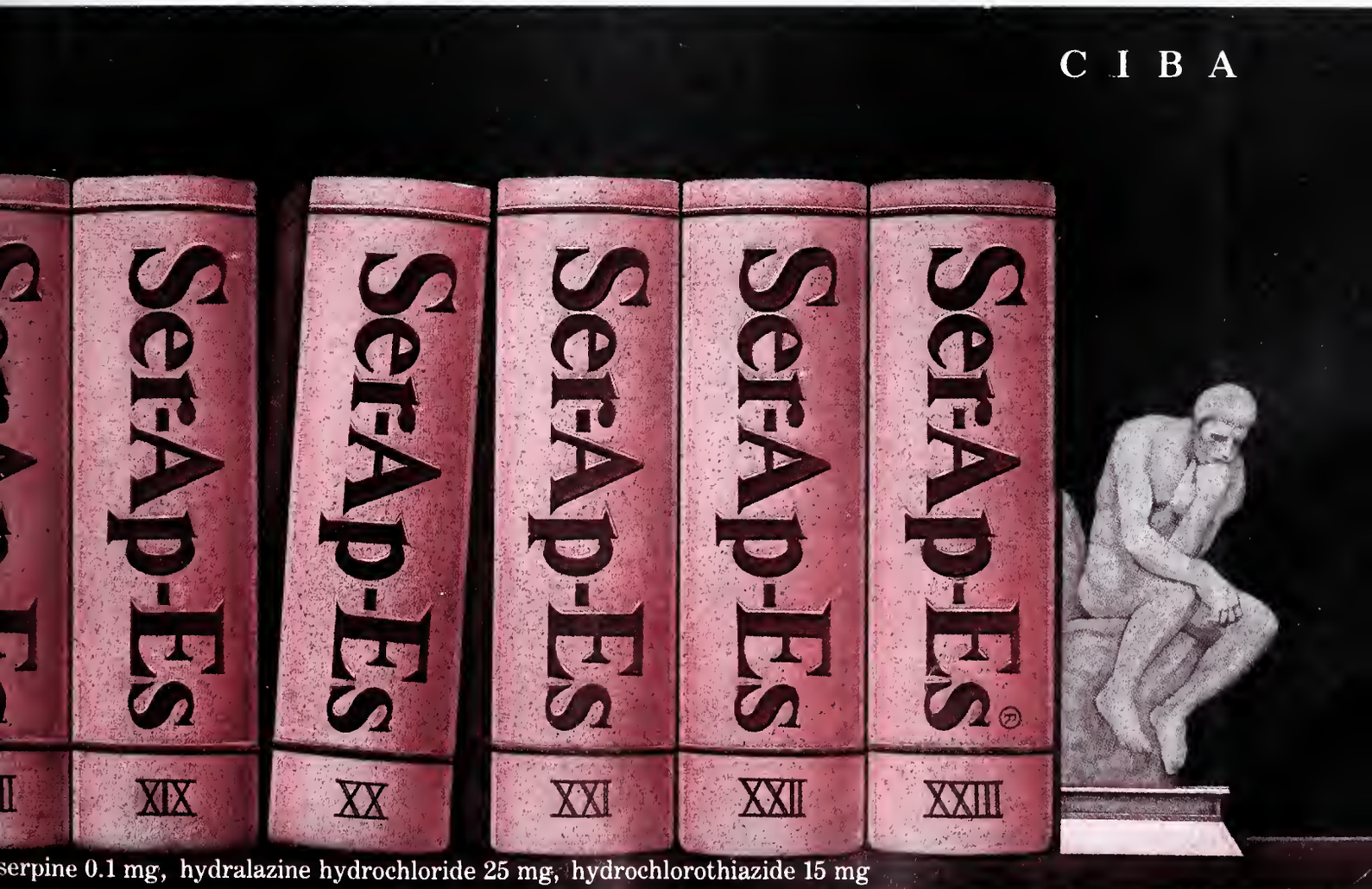


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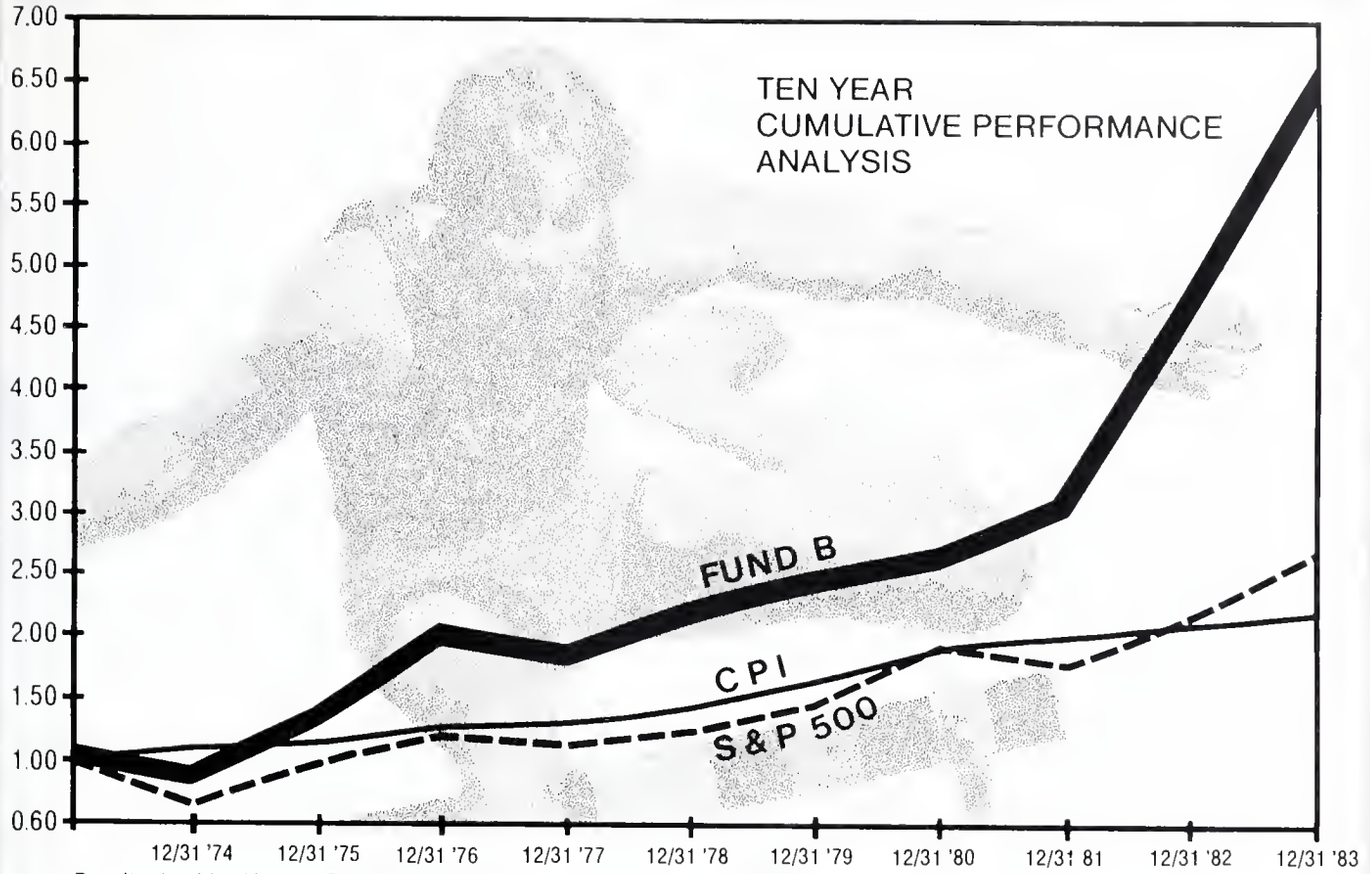
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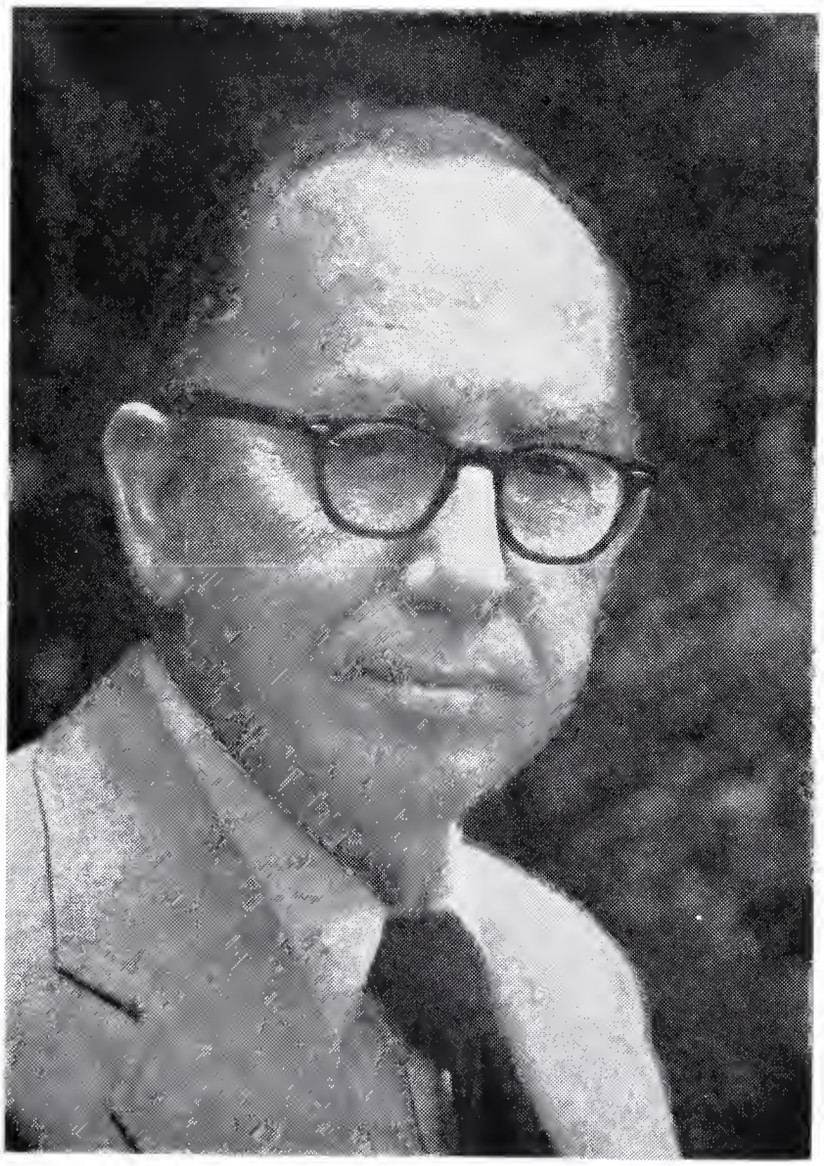
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Presidential Address

108th MEETING

ARKANSAS MEDICAL SOCIETY

Charles F. Wilkins, Jr., M.D.

April 14, 1984

PREFACE

At the 1983 meeting of the Arkansas Society of Internal Medicine a fellow internist used the term "Triple A Club" to describe individuals having bad traits beginning with the letter A. From this statement I conceived the idea for this essay.

I have long been intrigued by John's vision of the Four Horsemen of the Apocalypse described in Revelations, so I developed the idea of naming each rider for a bad trait. I could not find a good fourth *A* word, so I made up one, "Anempathy" (lack of empathy).

In the fall of 1983 I was somewhat taken aback by the publication of *The Thunder of Approaching Hoofbeats* by Dr. Billy Graham. Then at the other end of the theological spectrum, Pope John Paul used the Four Horsemen in his New Year's message. In spite of this near plagiarism and perhaps flattered and urged on by it, I present this short essay.

You will note that I begin with a bit of near plagiarism myself, paraphrasing the opening paragraph of Grantland Rice's masterful description of the 1924 Army-Notre Dame football game in which he gave name to the immortal *Four Horsemen of Notre Dame*.

THE FOUR HORSEMEN AND AMERICAN MEDICINE

AN ESSAY

In the year of our Lord 1984 the Four Horsemen of The Apocalypse ride again. In ancient lore they were War, Famine, Pestilence and Death, but for modern medicine they are called Avarice, Apathy, Anempathy and Arrogance. It is against these four failings that we allopathic physicians must fight.

AVARICE —

Of all the riders this is the most heinous. Dr. Billy Graham calls the rider of the white horse False Religion. This is most appropriate. Greed *is* a false religion. The God of Gold leads to much that troubles us in medicine. Scratch an unreasonable fee or an unnecessary surgery and you will find the worship of gold. I say to you, "Shun the Gold worshiper"! He has little regard for the patient's best interest. At heart, he has only *self* interest.

APATHY —

A lack of concern. Its most frequent manifestation is, "The Medical Society doesn't speak for me, so I'll not be a member." An academician said to me, "That's your club, not mine." The American Medical Association is not a club. It is not a union. It is an organization devoted to

better medical care for all Americans. Probably few of you realize that the AMA was originally founded to improve medical education. It finally rid us of the last Class B medical school in the 1950's.

The giant AMA lobby? A myth. It is one of the smallest in Washington. The powerful AMA lobby? You bet it is! It is influential because it speaks the truth. You want to change the voice of medicine? Do it from the inside! Believe me, that voice has been changed through the years by efforts of members.

A few years ago the cliche was "The AMA is finished. It is an archaic thing of the past." They were wrong. The AMA probably speaks with more influence today than at any time in its history, and it speaks with a voice you and I give it. I say to you, "Shun those who associate with the rider of the red horse!" Apathy will extend to their patient care.

ANEMPATHY —

This is the rider whose name I made up. Etymologically, it may not be entirely correct, but it says what I want. Lack of empathy. Not sympathy. Lord deliver me from the "bleeding heart physician."

Empathy is the ability to feel the situation as others do, to understand it fully, on occasion to use, yes, even manipulate emotions for the good of the patient. It brings to the sickroom Knowledge, Relief of Pain, Love, Cheerfulness and above all Hope.

Empathy is not an inborn trait. It is the result of training and experience. Medical schools should institute training programs to assist young doctors in the development of empathy and of a personal code of moral ethics. The decisions that must be made at the end of life are ultimately the responsibility of the physician. No family, committee or court can assume this responsibility. The physician must have a firm base of morals and ethics as he makes these decisions.

ARROGANCE —

The rider of the pale horse. In this day when every so-called medical advance is highly publicized it is difficult to maintain that attitude of healthy skepticism that has characterized the physician since the time of Hippocrates. Hold onto it.

The Quantum Theorem of Physics is in doubt. The Germ Theory of Disease is probably not true. We have made almost no headway against the "Three score and ten." The degenerative processes simply remain beyond our ken. Avoid arrogance, lest you join the rank of the charlatans.

Since medicine split off from the priesthood, if it ever really did (by this I mean I still consider medicine something of a priesthood), the physician has been held in high regard. This, even before antibiotics and fancy surgery. This was done with Selflessness, Empathy, Charity, Integrity, Humility and Search for Truth. These are our knights as we ride toward Armageddon. With these knights there is no question as to the victor. No Political, Social, Economic or Religious force *has ever* or *will ever* control medicine as long as the Four Horsemen are repulsed.

We have accomplished a great deal with a little knowledge, but we have a long way to go. You remember the Fisherman's Prayer, "The sea is so great and my boat is so small." Paraphrase it, "The art is so great and I am so small."

I quote from Julius Caesar, "The fault, dear Brutus, is not in the stars, but in ourselves." Or from perhaps a greater philosopher, Pogo, "We have met the enemy and they are us."

The end.

THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

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VOLUME 81 • JUNE, 1984 • NUMBER 1

PROCEEDINGS

108th Annual Session

ARKANSAS MEDICAL SOCIETY

Little Rock

April 12-15, 1984

FIRST SESSION
HOUSE OF DELEGATES
April 12, 1984

Speaker of the House Amail Chudy called the House of Delegates to order at 12:30 p.m. on Thursday, April 12, at the 108th meeting of the Arkansas Medical Society. He called upon W. Payton Kolb to give the invocation.

Members of the House in attendance were: COUNTY DELEGATES — ARKANSAS, G. L. Guyer; BAXTER, John F. Guenthner; BENTON, E. H. Ball; CARROLL, Paul J. Bubak; CLARK, N. R. Ritter; COLUMBIA, John L. Ruff; CRAIGHEAD-POINSETT, Don B. Vollman; CRAWFORD, Millard C. Edds; CRITTENDEN, C. Herbert Taylor, Jr.; FRANKLIN, David L. Gibbons; GARLAND, J. Richard Gardial, William R. Mashburn, Deno Pappas, James Gardner; GREENE-CLAY, J. Darrell Bonner; HEMPSTEAD, James W. Branch, Sr.; JACKSON, Ramon Lopez; JEFFERSON, R. A. Irwin, John Crenshaw, George V. Roberson, L. A. Forestiere; LAWRENCE, Ralph F. Joseph; LITTLE RIVER, John A. Gillean; LOGAN, S. E. Hutson, III; LONOKE, Jerry C. Chapman; MISSISSIPPI, Sybil R. Hart; MONROE, J. P. Williams, Jr.; NEVADA, Michael C. Young; OUACHITA, Robert H. Nunnally; PHILLIPS, Robert Miller; POPE, Frank Lawrence, James Burgess; PULASKI, Robert F. Shannon, Kelsy J. Caplinger, Gordon P. Oates, Arthur E. Squire, Fred O. Henker, III, Guy R. Farris, Gene L. France, Warren C. Boop, Charles H. Crocker, Gilbert O. Dean, David L. Barclay, Charles H. Rodgers, J. Mayne Parker, Fred J. Kittler, Douglas E. Young, Jere Guin, Paul J. Cornell, Marvin Leibovich, David Hall, Bruce Schratz; SALINE, Frank Thibault; SEBASTIAN, Morton C. Wilson, McDonald Poe, Jr., A. C. Bradford, J. D. Busby; TRI-COUNTY, David E. Ducker; UNION, Robert R. Sykes; VAN BUREN, John A. Hall; WASHINGTON, J. E. McDonald, II, Charles H. Chalfant, Joe McAlister, James D. Sharp; WHITE, William M. Gibbs, II, Daniel S. Davidson; YELL, James L. Maupin. COUNCILORS — Merrill J. Osborne, J. Larry Lawson, Jim E. Lytle, John Hestir, L. J. Pat Bell, Lloyd G. Langston, John P. Burge, George Warren, Cal R. Sanders, F. E. Joyce, James D. Armstrong, E. K. Clardy, Ronald J. Bracken, W. Ray Jouett, William N. Jones, Frank E. Morgan, Harold D. Purdy, Charles W. Logan, Richard N. Pearson, Rhys A. Williams, W. P. Phillips, Ken Lilly. PRESIDENT Asa A. Crow; PRESIDENT-ELECT, Charles F. Wilkins, Jr.; FIRST VICE PRESIDENT, Warren Douglas; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER, Paul A. Wallick; SECRETARY, James R. Weber; TREASURER, James M. Kolb, Jr. PAST PRESIDENTS — Joe Verser, C. R. Ellis, Joseph Norton, Ross Fowler, Ben N. Saltzman, T. E. Townsend, W. Payton Kolb, George F. Wynne, A. E. Andrews, Purcell Smith, Jr., Morriss M. Henry.

Speaker Chudy introduced the president of the American Medical Association Auxiliary, Mrs. John G. Bates of Cuthbert, Georgia. Mrs. Bates addressed the House as follows:

"Thank you, the members of the medical profession, for the support that you give to your State Auxiliary and, in turn, to the AMA Auxiliary as your spouses are members of the federated organization. Thank you for the work that you do for your patients and for your community. We value our role as Auxiliary members and as your partners.

"During this year, I have taken the opportunity of sharing with county and state auxiliaries, as I traveled across the country, one supreme challenge. That is accepting the change that comes to us each day. You, perhaps, know better than many other people in our society of the change that is happening in society, the change that is taking place in government, the change that is taking place in our lifestyles, and especially the changes that are taking place in the practice of medicine. One of the things that I would like to say to you, as well, is that my feeling is we must learn rather than resist or fear the changes that are taking place. We must take those changes and use them to our own purpose so that the outcome will be the product of our own making and not that which someone forces upon us. We know that it is not business as usual in the practice of medicine, although much of the change taking place in the practice of medicine has not yet hit those of us in the Southern states as they have some of the other states in the country.

"I would say to you that right now, you have in your State Auxiliary an opportunity to use the best public relations vehicle you have at your disposal. This is an untapped resource—one which can get into the community, which can be able to provide the needed services for your community citizens, which can tell the true story to those people who only know what they hear on television and what they see in the newspaper. We are involved in a lot of activities, especially the fundraising effort for AMA-ERF. I know you'll be participating in a presentation this afternoon in your House of Delegates.

"I look forward to being here with your State Auxiliary and challenging them to greater heights during this next year. One of my greatest concerns about your State Auxiliary is that of membership. I would ask that you as the physicians of this State help them by encouraging your spouses to become involved in the Auxiliary—county, State and National—because we are a federated organization. Thank you for your time."

Speaker Chudy recognized Mrs. Paul Cornell, president of the Arkansas Medical Society Auxiliary. Mrs. Cornell reported to the House of Delegates as follows:

"Mr. Speaker, past presidents and members of the House, thank you for the warm welcome.

"Last year I came before you to tell you of my enthusiasm for the coming year. This year I come before you with the same enthusiasm to tell you that the Auxiliary had a good year.

"During the past year, I attended National convention in Chicago and went back again in October for confluence with our president-elect and five county presidents-elect. I will be going to National convention again this June. I have attended your Council meetings, as well as those of your Public Relations Committee. I have visited in fifteen of our organized counties, putting 3,510 Auxiliary miles on my car. When time permitted, I traveled with the Health Chairman to give workshops throughout the State on Scoliosis screening, teenage pregnancy, BELTMAN, and the Berkeley project. These programs will be continued next year. We have initiated programs we can be proud of and that will make our State healthier.

"Our workshops on Scoliosis screening alone have been given in fourteen counties to not only Auxiliary members but also to PTA's, school and public health nurses, and Junior Auxiliaries. This morning Jessie Steele called me and the final total is in—Auxilians in our State were responsible for screening 35,389 kids for Scoliosis.

"Our cookbook, five years in the making, is finally a reality. Many of you sent recipes that are included. We hope you will all buy several books to take home. My husband especially hopes that you will buy them as they delivered 125 boxes of books to his office. They are for sale at the registration desk.

"As I have traveled our State, I have seen physicians' spouses volunteering their time and energies in programs dealing with child abuse, car restraints, the car seat lending program, the elderly, teenage pregnancy, prenatal care, scoliosis, aid to cancer victims, and nutrition, just to name a few. Auxilians are truly good public relations for you.

"Thank you for your courtesies extended to me by the Society. I will always remember fondly this year as president. It was an honor to serve and represent Arkansas. Thank you."

Medical Society Officers For 1984-85



President Charles F. Wilkins, Jr.
Russellville



President-elect John P. Burge
Lake Village



The Principal offices for the coming year. From the left: Treasurer James M. Kolb, Jr., Russellville; President-elect John P. Burge, Lake Village; Immediate Past President Asa Crow of Paragould; President Charles F. Wilkins, Jr., Russellville; Chairman of the Council J. Larry Lawson of Paragould; and Secretary James Weber of Jacksonville.

THE COUNCIL OF THE ARKANSAS MEDICAL SOCIETY FOR 1984-85



Seated, left to right, First Vice President Charles H. Rodgers, Immediate Past President Asa Crow, President-elect John P. Burge, President Charles F. Wilkins, Jr., Treasurer James M. Kolb, Jr., Chairman of the Council J. Larry Lawson, Secretary James Weber, Speaker Amail Chudy, Vice Speaker Sybil Hart. Standing, left to right, Councilors M. J. Osborne, John Hestir, Robert Langston, William N. Jones, Jim Lytle, Paul Wallick, Ray Jouett, E. K. Clardy, Ken Lilly, L. J. Pat Bell, George Warren, James Armstrong, Cal Sanders, John Bell, Harold Purdy, Charles Logan, Pat Phillips, Lloyd Langston, Past President A. E. Andrews, Third Vice President Harvey Harmon, Councilors Frank Morgan, Richard Pearson, F. E. Joyce, and Past President C. R. Ellis.

AUXILIARY OFFICERS ADDRESS THE HOUSE OF DELEGATES OF THE SOCIETY



Mrs. Paul Cornell of Little Rock was president of the Arkansas Medical Society Auxiliary for 1983-84.



Mrs. Deno Pappas of Hot Springs was the 1983-84 president-elect of the State Auxiliary.



Mrs. John Bates of Cuthbert, Georgia, President of the American Medical Association Auxiliary.

Speaker Chudy introduced Mrs. Deno Pappas, president-elect of the Arkansas Medical Society Auxiliary. Mrs. Pappas made the following remarks to the House:

"Mr. Speaker, members of the House of Delegates and guests, thank you for inviting me here today.

"This year as president-elect of the Arkansas Medical Society Auxiliary has been a busy and enlightening one for me. Thanks to all of you and your generous contribution, I was able to travel to Chicago for many learning sessions. As a delegate this past year for the first time to the AMA Auxiliary, I was very proud to be a member as well as an American citizen. This past February while I was in Chicago, I toured theAMA headquarters and little did I know how big a business you all are up there and the many facets of your operations. I thank you for the opportunity.

"I traveled around the State this year with Joann encouraging membership in the Auxiliary. I found that in the few counties I was able to visit, membership and enthusiasm were low. I think that this is not only a problem for us but within the other volunteer organizations across the Nation. However, I would say to you today to encourage your wives to join with us in supporting you and your goals. This year our State membership goal was to increase our membership by 200 members. Unfortunately, it was down—but only by one—for a total of 935. I worried about this and pondered about it, but I remembered back when Helen Padberg was president-elect and she encountered some of the same problems. She said, and I quote, 'It seems we have a slight decrease in membership but an increase in the quality of membership.' This certainly is evident this year with the accomplishments of our Auxiliary under the leadership of our president, Joann. I am proud to announce today that we have two newly organized auxiliaries—Mississippi and Independence Counties. Along with traveling and encouraging membership and working with membership, I still had another responsibility that I started five years ago as chairman of the Cookbook Committee.

"Today, as Joann told you, we will be kicking off the sale of *The Best of Everything*. This project represents not only a lot of hard work and a lot of hours by many people but a lot of love for a wonderful organization. The proceeds will go to our health and educational projects of the Auxiliary.

As I look forward to the next year and working with the Society, I hope that we can relate as Auxilians to the community that we share in your profession of helping people and improving the quality of life for everyone as we extend ourselves to those who need our help. We strengthen them while we strengthen their faith in the medical profession. The last time I stood before this distinguished assembly I presented Dean Bruce with a very large check for AMA-ERF and today I would like to ask you all to support our cookbook. (I understand you gave us some money to help pay for it in case we don't sell them all.) We want you to come by this afternoon for our coming-out party and sample some of the recipes that are in our cookbook so that the next time we present a check to Dean Bruce, it will be the largest one ever. Thank you."

Speaker Chudy called upon T. E. Townsend who introduced Hubert A. Ritter, member of the Board of Trustees of the American Medical Association. Dr. Townsend gave special recognition to Dr. Ritter for his willingness to listen and to help on the National level.

Dr. Ritter's address to the House is printed elsewhere in this issue.

Speaker Chudy recognized President Asa Crow. Dr. Crow's presidential address to the House of Delegates follows this report.

Dr. Crow presented checks to Mr. George Warner, Associate Dean for Finance of the University of Arkansas College of Medicine, on behalf of the American Medical Association Education and Research Foundation. A check for $13,791.19 was for an unrestricted grant to the College and a check for $2,959.27 was for the Medical Student Assistance Program. Dr. Crow recognized the work of the Auxiliary involved in raising funds and soliciting contributions for the medical school grant program.

Joe Verser, secretary of the Arkansas State Medical Board, presented a plaque to Mrs. Elvin Shuffield in memory of her late husband for his work on the Medical Board. Dr. Verser shared with the members some of his memories of Dr. Shuffield's work for the Board and for the betterment of medicine. (Dr. Verser's remarks are printed following these minutes.) Mrs. Shuffield expressed appreciation for the recognition given Dr. Shuffield.

At the conclusion of the presentation by Dr. Verser to Mrs. Shuffield, the House paused for a moment of silence in memory of Dr. Shuffield.

The House adopted minutes of the 107th Annual Session as published in the July 1983 issue of the *Journal of the Arkansas Medical Society*.

John P. Burge, chairman of the Council, presented a supplemental report of the Council. The report appears elsewhere in this issue of the Journal.

The House of Delegates voted approval of Constitutional Amendments presented for final consideration. The amendments deleted a bylaws prohibition on seeking elective office in the Society and added a bylaws provision for dues waiver for new members.

Speaker Chudy called for a brief recess of the House for the purpose of Councilor district meetings to elect members of the Nominating Committee. Those chosen to serve on the committee:

District 1: C. Herbert Taylor, West Memphis
District 2: Ramon Lopez, Newport
District 3: Gerald Guyer, Stuttgart
District 4: Paul Wallick, Monticello
District 5: George Warren, Smackover
District 6: James Armstrong, Ashdown (elected chairman)
District 7: Ronald Bracken, Hot Springs
District 8: Warren Douglas, Little Rock
District 9: Ross Fowler, Harrison
District 10: W. P. Phillips, Fort Smith

Speaker Chudy reminded members of the first, fourth, and fifth congressional districts to select nominees for positions on the State Medical Board and the State Board of Health.

House members were reminded of Reference Committee hearings to be held immediately following recess of the House.

The House of Delegates recessed at 2:10 p.m. until 10:00 a.m. Sunday, April 15th.

ADDRESS BY DR. HUBERT RITTER

Thank you, Dr. Townsend. Mr. Speaker, President Crow, fellow physicians and guests. Needless to say, I am delighted to be your guest and I feel very privileged to represent the American Medical Association before your Society. I bring greetings from the American Medical Association for a successful meeting and particularly from our president, Dr. Frank Jirka.

Dr. Townsend must have read my notes a little bit because he's stolen my thunder on the Mid-America Caucus but I would like to compliment Arkansas in their participation in this Caucus. They have done a very effective job in bringing information and preparing themselves and coming to these meetings and summarizing the delegates' handbook. Any of you who have not seen a delegate's handbook from the AMA, it's about like reading the telephone directory for the city of St. Louis or some similar sized metropolitan area. It's not necessarily the most delightful reading and sometimes you lose the theme.

To say the least, because of the Mid-America Caucus we have become a more effective educational political unit within the House of the AMA and I really do wish to thank Arkansas for their contribution to this.

There's an old expression which I kind of like, it says, "If you want to be a big flea, run with big dogs" and I would hope that in your consideration of me, that you'd consider me as a big flea. Because really, you're the big dogs. It's State Associations such as Arkansas that are the big dogs that make up the AMA. As a matter of fact, you are the AMA—your state.

In my position as an officer, I am privileged to travel extensively and meet many influential people as well as physicians—all of whom I consider influential. Strangely enough, most of these people—including physicians—have a rather poor understanding of how the AMA operates or an appreciation of what the AMA really does.

I would imagine all of you here belong to your county and state society. But let me ask two questions: (1) Do you belong to the AMA? (2) Do you support AMPAC? If your answer is no to either of these, some one of your colleagues is carrying your load. If every member of every state medical association or society belonged to the AMA, AMA dues could be decreased by $59 per year. I think what this could mean if every eligible physician belonged to organized medicine. But that's not a good enough reason for every physician to be part of organized medicine—the county, the state, and the national level.

AMA is the largest democratic, physician-oriented organization in the world. Every member has an opportunity to influence the activity of this organization. Contrary to what Harry Schwarz recently wrote of private practice, which I take great exception to, he said we were an elitist crowd and only those at the top could progress.

That's not true. Those who fail to support organized medicine on all levels are telling you that they want a free ride. They frequently have some nebulous excuse as to why they don't want to join. The one I hear most commonly is I don't agree with their position on Abortion, or something like that. When asked what they think the position is, they don't know.

You, as individual members, can introduce resolutions and address them at the annual and interim meetings of the House of Delegates. You can influence AMA policy by a single effort on your own part. AMA policy is established by the House of Delegates. You elect the delegates from your own organization. This policy is then transmitted to the Board, the Board implements it, the Board also has fiduciary responsibility for the AMA and also does bring to the House ideas for consideration. We certainly do develop lines of thinking—just as your Council does—and bring to you ideas which you may want to accept or reject. Any member, not just a trustee or delegate, may run for any office in the AMA. Just as any American may run for any political office they desire. Now, it behooves one to have a constituency and to identify the issues that you are going to run for. That's all that's necessary to run for political office in the AMA or a political office any place else in this country.

As far as I am aware, this opportunity does not present itself with any other medical organization. Various colleges, as a group, are elitist; policy is established by a decree—not by representation. All of you who are licensed practicing physicians, including those who did not get their medical education in this country, are influenced by the AMA in a multitude of ways—even those who are non-members. For most of us, this influence started the day we entered medical school—an accredited medical school, I should say. To name just a few:

(1) all United States medical schools are accredited by the liaison commission on medical education. This is composed of four members from the Council on Medical Education of the American Medical Association and four members from the American Association of Medical Colleges and one lay person.

(2) State licensure was promoted, developed and fought for by the AMA. AMA is still fighting for state licensure. Whether you know it or not, there are a lot of people who would like to have Federal licensure so they could tell you where you're going to practice and how you're going to practice. We are standing staunchly behind state licensure so that we can have control over our own destiny.

(3) Specialty training programs are all reviewed by Residency Review Committees and on those committees are AMA appointees.

(4) The Specialty Boards all have AMA representation.

(5) This is one you may not have thought of—Allied Health Professionals, with which you all work daily. Their training programs are all supervised by physicians from the AMA through the Council of Allied Health Education Accreditation—your respiratory specialists, your lab technicians, your physiotherapists, etc.

(6) Hospital accreditation, we're always working, is done by the Joint Accreditation of Hospitals. Seven of those commissioners are selected by the AMA (there are 22 commissioners).

From the day you entered medical school in the United States or immigrated to this country as a foreign country medical graduate, the AMA has had a file on you. It is the only place in the United States where this data is available. This file is constantly updated. When you graduate and when you are licensed, yes, even when you are disciplined by the state licensing boards, is recorded in your file—member or not. We are like the electric company; you only notice us when the lights go out.

I'm going to break my comments down into three things that I think are very important. (It's kind of like a Presbyterian sermon, it always has three points and then a conclusion.)

I'd like to talk about (1) the budget and the internal structure of the American Medical Association; (2) the Environment of Medicine in the 80's; and (3) issues that are of major concern to us at this time. (I won't cover all of them but I will highlight some of them.)

In order to evaluate any body, you have to have some knowledge of the budget. The budget of the American Medical Association projected for 1984 is $111,500,000. Our operating expenditures are anticipated to be $110,100,000. We have reserves somewhat in excess of $80 million at this time. Dues comprise less than 46% of that budget; where else can you get a bargain like that? Sixty-

seven percent of the budget goes to promote quality of care—which is education and accreditation and that type of thing. The other portion goes to represent the profession—which is legislation, legal advice, public relations, etc. For those of you who really want to know more about the budget, *AM News* recently had a tear-out which all of you must have received. You can read this and find out all you want to know and more, probably, about the dollar today. It's a very complete report. We're the largest publisher of scientific material in the world. We publish in excess of 30 million pieces per year. *JAMA* is published in Spanish, German, French, Portuguese, Chinese and Japanese. Since George Lundberg took over as the editor a couple of years ago, *JAMA* takes a backseat to no Journal—not even the *New England Journal.* Most of our publications are sent by mail to members. Here is an interesting little bit of trivia; when the Post Office Department raises our rate 1¢, it increases our expense $400,000.

The internal structure of the AMA is absolutely fascinating, as was previously alluded to. More than 50% of the employees of the AMA—of whom there are over 1,000—are there because of special expertise. We have 22 lawyers *in-house*; we have pharmacists, educators, librarians, authors, journalists, public relations personnel, photographers, radio and television experts, dietitians—even a head chef, cooks, nurses, engineers of all descriptions, computer programmers, research analysts, accountants, investment consultants. I'll just digress for a moment when I mention that the AMA has the members' retirement plan (which is listed in the newspapers and the mutual funds everyday as AMEDD) as a benefit of membership. It's been very good to me. After I got on the Board, I found out how well this is being supervised so I put my pension plan from my office into it and I have no regrets. Only 4,000 members participate in this.

We also have insurance specialists. Membership does a little bit better with that—about 170,000 members have some form of insurance that they have acquired through the AMA; another fringe benefit.

Meeting and travel consultants. AMA meetings don't just happen. You've got to have some real experts to put all that together.

I could go on and name you many other specialties but that's the type of talent that is on board to say nothing of the many secretaries and file clerks.

I hear a fair amount of controversy about our Washington office and I'd just like to make a few brief comments regarding that. I've heard members say, "Well, I don't understand why AMA had to put up that big building and why they got that artwork there," and one thing and another along these lines. Nevertheless, several years back AMA did put up a building in Washington, D. C., at 1101 Vermont. That area at the time was the borderline of the crime area of Washington so we were able to acquire the ground pretty well. Since then the Psychiatrists have built a building rather close to us and other large buildings have been put up. Our building property value has increased tremendously. But in addition to everything else with our artwork and having two floors that we utilize and maintain, we rent out the rest of this building to many medical organizations—American Association for the Advancement of Science, ASIM, the Otolaryngologists are there (I think) but what I'm leading up to is the building is part of the reason your dues are only 46% of our budget. It nets us—after all expenses and debt service—in excess of a million dollars a year. Now the artwork is an investment, just as any of the rest of you have invested in art. We have done this with highly skilled individuals telling us what to buy. We have some very classic pieces of art. If you're in Washington, it's worth your time to go by there and see it. So your money has not been wasted is the point I'm making. I just mention it briefly because I think it's important that you know that the Board of Trustees—at least in my opinion—has not been throwing away your money. This office has only about 40 people in it. They are highly skilled individuals; they're librarians, legislative personnel, lawyers, and only five lobbyists. Contrary to what you might think about this powerful big AMA lobby in Washington, there are only five registered lobbyists. Our chief lobbyist is a dentist—John Zapp. He is a very effective person. He has four subordinate lobbyists; each of them has one-fourth of the House of Representatives to service and 25% of the Senate, or 25 Senators each. I've spent some time with these people on the Hill. I assure you that you're getting your money's worth there, like no place I know.

I'd like to move on rapidly to the second topic: The Environment of Medicine in the 80's. This is a bunch of kind of statistics that I think are just fascinating. AMA is constantly doing surveys.

We poll a segment of the medical population on a monthly basis by telephone. Every now and then we carry out a very major piece of research. This was done last year with the help of Market Opinion Research and the Gallup Pole. They were both asking similar questions in a different manner to similar segments of the population. We asked what was the main problem facing medicine today. The public response was cost and the physician response was cost. Sixty-two percent of the public said that this was the problem. Interestingly enough 90% of that 62% think the physician is to blame. Fifty-eight percent of the physicians thought it was the problem. I think our acceptance of the fee freeze demonstrates a willingness on the part of the profession to do what we can do about this—at least to slow it down. An even more dismal finding—to me at least—is the public image of physicians. Now these are questions asked strictly of the public, not physicians. Only 81% believe their physician is accessible. Only 80% believe their physician is dedicated; one out of five isn't, they think. Seventy-one percent believe their physician possesses medical ability; almost 30% don't think they have any ability. Sixty-eight percent of the public believe that physicians are truly interested in patients; the other 32% even doubt whether you're interested in them. Tragically, 62% say they are beginning to lose faith in physicians. These figures to me are truly astounding and unless we work together as a profession, this trend won't be reversed.

The public was then asked what they look for in choosing a physician. This is interesting. Ninety-six percent believed that a physician's knowledge of medicine was important. I wonder what the other 4% think. Eighty-three percent expressed concern over waiting time in physicians' offices. Now, this is something you can all do something about. We all realize that times are going to occur when you will have an emergency that will detain you but you can schedule seeing your patients so that they can be seen promptly and not have to sit there hours on end. This probably upsets patients more than any single thing we've uncovered. Eighty-five percent expressed real concern about the relationship they would develop with the personnel that works in the physician's office; they wanted pleasant surroundings and pleasant people to work with. It's interesting that this all comes down to competition is truly beginning to show and the public is aware that they can look at the competition. They can bargain for something better than they're getting.

When we asked physicians about manpower, or asked the public about physician manpower, one third of the public still thinks there aren't enough physicians. However, when you go to physicians and ask that question, 65% think it's about right. Thirty-five percent think there are too many. I think these figures are going to change very rapidly as time goes on because now more than half the physicians in practice are under age 40 and they're still cranking them out at about 17,000 a year. As competition increases, economic pressure and a decline in physician income is certain to occur. Of course, we've already noticed this in physicians' purchasing over the past few years. One of my very main concerns and the concern of all of us at the AMA level is how to control this issue. How do we keep the quality of care up without jeopardizing patient care, without increasing costs, and how do we do this legally? Everytime we try to do something to insure the quality of care, some how or the other we get in trouble at the FTC or the Justice Department so it's a very serious problem.

The subject of medical liability, of course, is one that we all have our opinions about but when physicians were surveyed, an average physician believes that one in five claims is the result of negligence. This is, I think, questionable; it may be higher than that. Here are some really interesting statistics. Twenty-three percent of the public is willing to give up the right to sue if it will reduce health care costs. Sixty-one percent of the public believes that a limit should be placed on awards. Now this is something that we can work with. Florida is trying to do it. They recently have assessed all of their members $300 and are putting on an initiative campaign to get legislation, which they can't get through the state legislature, on the ballot to limit the amount of awards and change the malpractice climate in the State of Florida. I think we're all going to watch this very closely. But I think with this sort of a statistical evaluation of the public, we probably have more help out there than we fully realize. I think we should capitalize on it. I know that I'm watching what's happening in Florida in a very anxious way.

We've also discovered that young physicians are

considerably different than those of us who have gray in our hair. The young physicians are more likely to advertise, they're more likely to participate in HMO's, IPA's, PPO's, etc.

Then the thing we found out from the public; although they know better, they persist in choosing unhealthy lifestyles—excesses of alcohol, tobacco, overeating, lack of exercise, failure to use seatbelts, all these things go on. It's going to take a tremendous educational effort on our part to change it. Well, so much for the environment of medical practice.

Issues of apparent concern to the AMA. We mentioned earlier the cost of care is on everybody's mind and that is one of the number one issues that we have. Heading the forefront of this is the Medicare freeze and potential rollback. We believe that the rollback has probably been stopped. They were going to rollback fees and freeze them at the level of June 1983. Initially, the freeze was to go into effect for a period of two years. We believe that is going to be only one year. Mandated assignment. Just as we're sitting here right now, Congress is in session, debating, and may well have voted on it by this time. Mandated assignment, for those of you who don't fully understand it, is for Medicare patients. It means the hospitals must require all the physicians on their staff to take mandated assignment of Medicare fees. If the hospital has anyone on their staff that does not take Medicare fees as assigned, the hospital will not be reimbursed by the Government. The physician who says he's doing it and violates it will get a $10,000 fine and a year in prison, if caught. Now this is very onerous and we're fighting this one very, very hard.

The other item is DRG's, and I won't go into this at great length except to tell you that in August of last year when we surveyed the physicians in this country, less than 25% knew what DRG's stood for. Now, everybody knows that it stands for Damned Regulated Government; or Decent Realistic and Good; Dispicable, Ruthless, Grasping; Dubious Risky Gamble. All of this is going to lead to rationing of care; this is another thing that's concerning us greatly. I can give you just a couple of examples. We can look at the dialysis program. It started out as a 100 million dollar program and it is now a 1.8 billion dollar program and growing constantly to serve only about 60,000 people a year. This is one place we're spending a lot of money. How much good is being accomplished—a good question. Premature infants—50 to 150 thousand dollars to get these two pounders and grow them to a point where we can get them out of the nursery; a tremendous amount of expense. California has taken a step, they always do something first in California it seems like; they bargained out for their Medicare patients (2½ million of them) they made an agreement with the 200 hospitals that gave them the lowest bid to care for their Medicare and Medicaid patients. So they're getting another level of care that's different from the rest. That wasn't the idea behind Medicare and Medicaid. It was that everybody could get quality care through their private physicians. It's already crumbling.

Our aging population is another great concern to us. Right now, one in nine individuals is over the age of 65; by the year 2000 one in five will be over 65. Presently, there are 2.6 million people over 85—600,000 of whom are in nursing homes. By the year 2000, there will be (if things progress as we anticipate) 5.1 million over 85 and goodness knows how many will be in nursing homes. We know right now that one-third of the health care dollars spent in this country are spent on individuals over 65 years of age. This is where rationing is going to come in, I'm afraid. AMA is trying to do something about this. They have developed the health policy agenda for the American people. This is a consortium of people that we've brought together—about 150 from different factions to be exact—laying down the principles and the ideas that can be developed for a health policy for the American people. There has never been anything in the way of a form policy. It is always if the issue comes up throw money at it and maybe it'll go away. You can see what a hodgepodge we have at this time. We hope that this is going to be a real gift to the American public by the time we're done. I might add the AMA is paying the catalytic money; the organizations that are participating—for example, the American College of Surgeons, the American College of OBGYN—pay the expenses of their representatives to these meetings.

UCR versus Indemnity payment is going to be a major issue at the June meeting of the AMA. We on the Board have some misgivings about going to a straight indemnity plan because we feel that if that is the case, then you will have a set fee schedule for the whole country. That probably is not correct. We've fought long and hard to get

the insurance carriers to go for a UCR program and to turn the tables on them may not be as smart as it might seem. It will be an issue of great debate at least.

The AMA is the only organization which can assume any type role in interprofessional squabbles. Whether you know it or not, there are certain specialties that have gotten mad at each other and gone to the Justice Department or the FTC to try to get relief. We have recently had two of these groups to sit down with the executive committee of the Board and, at least their leadership have met some terms they felt they could live with.

Of course, the Chiropractic lawsuits seem to be endless. One in Chicago—the Wilkes case—which has gone completely through trial, then to Appeal, then remanned to the Court for retrial; the Chiropractors have now taken it to the Supreme Court. We at the AMA have spent over 5 million dollars fighting this suit already. The importance of this suit is so great that if the Chiropractors do win this particular suit, other suits which are pending will flare up all over the country with disastrous results for every physician whether they belong to the AMA or to the state association or anything else. The mere fact that you're an M.D. and had a medical education, you have deprived some chiropractor of getting a similar education is what they're saying. It's a very, very difficult thing.

One other suit that I'm very concerned with because I'm one of the plaintiffs in it against Margaret Heckler is the Baby Doe suit. If Health and Human Services can come into your nursery and tell you how to treat your babies, then Health and Human Services is going to come into your nursing home and tell you how you're going to treat your old people. So they've got the babies and the old people, it'll be a creeping disease that will encompass the whole country. This is presently in the Second Circuit of New York and also in the Federal Court in Washington, D. C.

Well, with all of these comments, I'll conclude with just two brief thoughts. One—be certain that no one else is carrying your load; make sure that all of your colleagues are doing the same. Some of us have had an opportunity to serve in a far greater capacity than others and in this regard, I've been blessed. For this, I'm very grateful.

The second is that the environment of medical practice is changing very rapidly and not necessarily for the better. It is up to all of us to work within this environment as it is, not as we individually would like it to be. If we do not unite and work together as a federation—through the AMA because that's the only structure there is, most assuredly we will have to take the blame for the dismantling of the finest health care system this world has ever known.

I thank you.

PRESIDENTIAL ADDRESS BY ASA CROW

I am directed to report to you about our activities during the year.

As usual, the Society has been active in many areas, although it often seems that the work done shows little rewards worth mentioning.

We are very fortunate to have added to our staff this year David Wroten. He is our professional relations expert. He will be working with the physicians on the grass root level.

The Society lost a good friend and tireless worker in Dr. Elvin Shuffield soon after our annual convention last year. Incidentally, the Council voted to name the annual layman award the Shuffield Award in honor of both Joe and Elvin Shuffield in recognition of the many hours they both worked for the Society.

Some of the actions that the Society has taken during the year worth mentioning are as follows:

(1) Council endorsed recommendations of the Arkansas Commission on cost effectiveness, which are particularly related to the Society.
(2) Endorsed continuing study of an experimentation with the concept of alternate delivery systems.
(3) Continued to work with industry representatives on mutual concern regarding health care cost.

The Governor appointed a commission, which I serve on and whose chairman is Dr. Saltzman. The committee is called "The Study Committee on Indigent Health Care." We hope to have some recommendations to make to help improve health care delivery especially in the field of indigent perinatal care.

The House of Delegates last year authorized the establishment of a Legislative Committee Fund to support legislative candidates. We have traveled to most of the areas of the State to bring this message to the members. We have been well received. I strongly urge that officials of the Society continue going to the component societies. I am thankful to Mike Mitchell, Ken LaMastus, Jim

TRIBUTE TO DR. SHUFFIELD









The secretary of the Arkansas State Medical Board, Joe Verser, presented a plaque to Mrs. Elvin Shuffield in appreciation of the many years of service which Dr. Shuffield gave to the Medical Board and to the medical profession in the State. Mrs. Shuffield was escorted to the podium by Ross Fowler, who had served for many years with Dr. Shuffield on the Medical Board.

The House of Delegates of the Arkansas Medical Society voted on Sunday, April 15, 1984, to name the late Dr. Elvin Shuffield an honorary past president of the Society. The Society also voted to name its award to outstanding layman the "Shuffield Award" in honor of Drs. Elvin and Joe Shuffield, and an annual lecture in connection with the annual session will honor Dr. Elvin Shuffield. Mrs. Shuffield appeared before the House of Delegates to express her appreciation to the Society for the recognition given Dr. Shuffield's work.



Speaker Chudy presides at the opening session of the House of Delegates on Thursday, April 12. Mrs. Patricia Williams and C. C. Long of the Society staff and Secretary James Weber are on the left side of the picture; President Asa Crow (partially hidden by podium) and Hugh Ritter of the AMA are seated on the right side of the table.



The House of Delegates of the Arkansas Medical Society in session on Thursday, April 12. Seated in the foreground are Sanford Hutson of Logan County, Richard Gardial of Garland County, legal counsel Mike Mitchell, and Past President T. E. Townsend.

DR. WILKINS HONORED







The Pope County Medical Society hosted a reception on Saturday afternoon for one of its members, Charles F. Wilkins, Jr., who was installed as president of the Arkansas Medical Society that evening.

DR. WILKINS HONORED







Weber and David Wroten for attending these meetings. We have been somewhat successful and have collected some money, not nearly as much as we would like or need, but we intend to keep working. We think this is a most important project.

I have made a few observations during my year as president which I would like to share with you. One of the most disappointing observations is the fact that physicians are losing prestige and respect from the public. Last month I testified in District Federal Court concerning an alleged Medicaid fraud by a pharmacist. The Assistant District Attorney told me that there was some difficulty seating a jury because some of the potential jurists admitted that they were prejudiced because they considered all doctors and druggists to be crooks. She very seriously, and I got the distinct impression that she was secretly smiling, said, "You physicians have a credibility gap." We do have a gap and unfortunately that gap is getting wider but what is more disturbing than the gap itself is the reason the gap is there. Part of the reason is of our own doing, part is a result of Government intervention. Part is due to the ever increasing malpractice suits and the threat of malpractice suits. We are affected by these threats and this is reflected in the way we practice, often times. Part of our difficulty is due to the fact that we are so able to produce so much in this day and time. In the history of civilization, production has caused resentment. Is it not ironic that in this day of modern technology doctors have much less respect than 50 years ago when all they could do was hold the patient's hand and watch him die?

Part of our difficulty is that several groups are zeroing in on the practice of medicine. These groups not only include lay workers but limited licensed practitioners, even some of our own so called allied professions. We must be aware of these groups and be prepared to do battle with these people to protect our own turf. These people can get laws passed to allow them to infringe on the practice of medicine. After all, we practice medicine at the pleasure of the Legislature. These people also have standards set by the Legislature. These people put pressure on both State and Federal Governments to pass laws to not only enlarge on their privileges but also to restrict physicians.

We must work to turn these trends around. It is an absolute must that we become more involved in our political process. We must show more sympathy and compassion not only for our patients when they are ill, but also for their financial situation. We must continue to make adjustments on their charges in accordance with their ability to pay. The Council has voted to recommend that all physicians freeze their fees.

The rising cost of medical care gets a lot of publicity. As a result of this publicity, the Federal Government will make further attempts to restrict physicians. Two weeks ago Cliff Long and I went to Washington, D. C. We were there with most of the presidents and executive officers of each state society. We talked to each member of our House asking him to oppose mandatory assignment. We have very little feeling as to effect this had or will have on the way they will vote. The momentum that this publicity has given our Legislators is not only on the Federal level; it is carrying over to the State level. We need to be more aggressive in our dealings with our Legislature. We need to pay more attention to our own individual Representatives and Senators. The Legislative Committee of our Society has outlined a four-point program; I ask you to please become familiar with this program and to please support this program.

PRESENTATION BY DR. JOE VERSER IN MEMORY OF DR. ELVIN SHUFFIELD

I am both saddened and honored to appear before you today. Saddened that I must remind you of the passing of a loyal and beloved member of this Society, Dr. H. Elvin Shuffield, and honored that it is my chosen lot to say a few words in memory of this good, kind, honest, dedicated and compassionate physician. This task will not be easy for me for two reasons. First of all, it is difficult for me to speak of Elvin without getting emotional. Second, in my allotted time, there is no way I could possibly tell you of all the good and great things this physician did for this Society, for organized medicine and for the people of this State.

Thirty-six years ago, shortly after our marriage, we attended an annual session of the Arkansas Medical Society. During this meeting, we met Ada and Elvin Shuffield and Jackie and Ross Fowler. I do not know what brought us together, but it was the beginning of a close-knit friendship which endured through the years and was one that only death could separate or tear apart. I had the privilege of working with Elvin as I was holding

the various offices of this Society and he was serving as secretary of our organization and later as he became a member of the Arkansas State Medical Board and later as chairman of the Board —a position which he held at the time of his death. It was during these years that I came to know the real Elvin Shuffield—a man of honesty, integrity and a man devoted to the betterment of his patients and his fellowman. Unfortunately, the only brother I ever had died in infancy; however, had he lived he could not have been closer to me than Elvin Shuffield. As most of you know, we were together on every issue that came before this Society. Now—he wasn't my man and neither was I his. He was his own man, and yet we were able to sit down and work out what was thought best for the Society and then go to work to get the problem settled. I was the loud one and he was the quiet one. I made the speeches and the enemies. He was never afraid to speak out on an issue but he had that rare ability to take a stand without ever making anyone mad. I must relate this incident to you because it was what Elvin enjoyed telling and never let me forget.

Several years ago a physician was brought before the Board for an alleged violation of the Medical Practices Act and by unanimous vote the Board took some minor disciplinary action against him. A short time later during a meeting of the annual session of the Arkansas Medical Society, Elvin and I were walking through the exhibit hall looking at the exhibits and shaking hands as we often did at the annual session. This physician's wife came up to Elvin—she knew him and he knew her. Elvin introduced her to me and she said to Elvin, "Dr. Shuffield, I want you to know that I do not hold you responsible for anything that happened to my husband at the board meeting." But she wheeled on me and said, "Dr. Verser, I hold you personally responsible for what happened to my husband at the board meeting and I want you to know that you have ruined my children's lives," and she continued to berate me for several minutes. All this time Elvin was standing looking over her shoulder at me and laughing. He never let me forget this incident.

A few years ago a friend of mine died at home and he was one of those rare individuals who was quiet, easygoing and soft spoken like Elvin and had the ability to make everyone around him love him. In fact, like Elvin the more you knew him, the more he became a part of you. It was during this friend's funeral that I realized for the first time that part of me went with him. I am sure that all of you who knew Elvin as I did will agree that part of us went with Elvin when he left us.

Although Elvin had been retired for two years, he spoke often and was worried about what was happening to medicine. He felt physicians had lost the dignity and esteem that the people once held for us. He thought that some physicians were not compassionate and both he and I agreed that some physicians' fees were excessive. He worried about how we had lost our clout with the Legislature. He spoke of the days when he was our Legislative Chairman for many years. If a bill was brought before the Legislature which might be detrimental to medicine, he would get on the phone from late afternoon until late at night and call key physicians all over the State and ask them to call their Legislator and explain the bill. The next day the Senators and Representatives would see Elvin and tell him that they understood the bill because it had been explained to them by their family physician. He was one of the few people granted the privilege of the floor and to walk in either the House or Senate at anytime—other than a Legislator or former Legislator.

I think the thing that Elvin would want for most of us today would be to rededicate ourselves to becoming better physicians, to being more compassionate, to treating our patients right and charge reasonable fees. This would be his greatest wish.

In closing I am sure that you will agree that Elvin Shuffield cannot be replaced in the near future, but it is my prayer to you that somewhere, somehow, someway, a young physician will come along, be a member of this Society, and be another Elvin Shuffield and do as much for this Society, for organized medicine and for the people of this State as did Elvin.

I now ask that Dr. Ross Fowler please accompany Mrs. Elvin (Ada) Shuffield to the podium.

Ada, no one knows better than you and I that as we get older memories become sweeter and more sacred, and I will assure you that every member of this Society who knew Elvin will forever cherish the fond memories of having known and worked with Elvin over the years.

Ada, you are a brave and courageous woman, and I want you to know that you will always be a part of this Society. I present you this plaque with the full understanding that it represents so

little for so much given by Elvin over the years to this Society and to his fellowman. Ada, we love you and God bless you.

REPORTS AND RESOLUTIONS

SUPPLEMENTAL REPORT OF THE COUNCIL

John P. Burge, M.D., Chairman

The Council met on Sunday, March 18, 1984, in the Camelot Inn in Little Rock and conducted business as follows:

1. The Council approved minutes of the Executive Committee meeting held January 25, 1984, as follows:
 (A) The Executive Committee considered the request of Mrs. Carol Lehman, Fayetteville, Arkansas. They authorized the utilization of the Society's letterhead with Dr. Long's signature in obtaining survey information for her doctoral thesis.
2. The Council approved minutes of the Executive Committee conference call on February 27, 1984, as follows:
 (A) A motion was passed unanimously by the Executive Committee that they recommend to the physicians of the Arkansas Medical Society that they accept a voluntary freeze on their fees for a period of one year.
3. Lloyd Langston, chairman of the Long Range Planning Committee, presented Mr. Bill Williams of Williams Consulting Services, the firm engaged to make the feasibility study on the headquarters office. The Council voted to accept the firm's report as information at this time, to disseminate the report to all members of the Society as soon as possible, and to place the matter on the agenda for the April 12 meeting of the Council with the recommendation of the Council to go to the House of Delegates at its meeting on April 12.
4. Mr. Kenny Whitlock, the new Director of the Office of Medical Services of the State Social Services Division, and Mr. Bill Carpenter discussed physician services under the Medicaid program.
5. The executive vice president discussed a proposal before Congress mandating Medicare assignment and urged members of the Council to contact their representatives expressing opposition to the proposed legislation.
6. Purcell Smith, chairman of the Medicine-Business Liaison Committee, reported for his committee as follows:
 (1) He presented recommendations of the Arkansas Commission on Health Care Cost Effectiveness which have particular applicability to the Arkansas Medical Society. The Council accepted the recommendation of the committee that endorsement be given for the following:
 (a) The Arkansas Medical Society and county medical societies should develop standing committees to identify health cost issues and recommend strategies to control health costs in Arkansas and in each county.
 (b) Physicians should make positive efforts to inform their patients of the cost of care prior to performing a test or procedure. This could include a list of the most frequently utilized services. The list should be updated as changes are made in the prices.
 (c) Health care professionals, Blue Cross and Blue Shield of Arkansas, commercial health insurance carriers, self-insurance administrators, Medicare, and Medicaid should strongly encourage employers to develop and implement health promotion programs in the workplace. The programs should include education on the appropriate use of health services, health risk assessment, self-care techniques, nutrition, weight control, and other health promoting activities.
 (d) The Arkansas Medical Society and the Arkansas Hospital Association should work with third-party payers, physicians, hospitals, regulatory agencies, and employers to develop programs to promote and coordinate outpatient pre-admission and diagnostic testing and to eliminate the unnecessary and costly duplication of tests.
 (e) Licensed health service providers should explore opportunities to develop cost-effective outpatient care facilities. These might include: ambulatory surgery centers; freestanding emergency rooms; day hospitals; birthing centers.
 (f) The Medicaid Program and the Arkansas Nursing Home Association

should strengthen and expand their utilization review efforts in long term care, including the evaluation of long term treatment plans, the utilization of drugs and activities to improve the functional status of residents and the Arkansas Medical Society should make available its expertise, resources, advice, etc.

(g) The Arkansas Medical Society should continue its program of focused utilization review to the extent that it is cost effective as a method of quality assurance, professional education, and cost containment.

(2) The Council approved the following recommendations presented by Dr. Smith:

(a) that the Medicine-Business Liaison Committee be renamed the Cost Effectiveness Committee.

(b) that the committee become a permanent Council Committee with staggered membership terms; membership of the committee is to have good geographic representation as well as representation of both primary care physicians and physicians in the various other specialties.

(c) that the charge to the committee be broadened to include: study and be informed on the various aspects of health care cost problems and delivery of quality medical care, including proposed alternate delivery systems;
have liaison and communication with hospital organizations, business groups, third-party insurance payers, Medicare, and Medicaid;
have awareness of Federal and State legislation and the implication of such legislation on health care costs.

(3) The Council approved a recommendation from the committee that a letter be written to Governor Clinton advising him of the Society's review of the recommendations of the Arkansas Commission on Health Care Cost Effectiveness and similar reviews by the Arkansas Hospital Association and Associated Industries of Arkansas and plan for a meeting of representatives of the three groups to discuss their various positions, and requesting an appointment with the Governor no later than July 1 to review the positions of the three groups.

7. The Council approved a position paper on "Alternate Delivery and Financing Systems" as presented by James M. Kolb, Jr., chairman of the Position Papers Committee.

The Council met on April 12th and accepted the report of the Williams Consulting Services firm on the office location feasibility study.

The Council voted to recommend to the House of Delegates that the Society's headquarters office be moved to Little Rock when the lease expires on the present office space on January 1, 1986, or as near that date as possible.

ALTERNATE DELIVERY AND FINANCING SYSTEMS

General Information

Alternate Delivery and Financing Systems (ADFS's) are methods of delivering and financing health care other than traditional fee-for-service. The three most common types of systems are Health Maintenance Organizations (HMO's), Individual Practice Associations (IPA's), and Preferred Provider Organizations (PPO's). All of these terms are used to describe ADFS's, and any single system may have characteristics of all three.

The various methods of delivering and financing health care may be viewed as an array of systems, with one extreme being private practice fee-for-service and the other extreme being a staff model Health Maintenance Organization where the physician is a salaried employee. In the traditional "fee-for-service" system, the patient receives medical care from his choice of providers in their respective offices. The patient and/or his insurance pays the physician for the costs associated with the services provided. In the HMO system, the patient *must* accept one of the salaried physicians at the HMO facility and has little or no choice of physicians. The patient pays a set fee per month for which he receives a pre-designated range of services; the risks associated with the costs of those services is borne by the HMO. With these two extremes, the other Alternate Delivery and Financing Systems then fall somewhere between.

The various Alternate Delivery and Financing Systems may be organized or owned by various groups including corporations (both profit and nonprofit), physicians, hospitals, or other groups.

A common characteristic of most non-traditional or Alternate Delivery and Financing

INAUGURAL DINNER-DANCE



The new president, Charles Wilkins, expresses thanks to the outgoing president, Asa Crow.





Dr. Crow receives a plaque of appreciation from Dr. Wilkins for his service to the State and to the profession and acknowledges the plaque to the membership.

THE INAUGURAL DINNER-DANCE



Dr. Wilkins during the presentation of his "Essay" to the Arkansas Medical Society.



Dr. and Mrs. Wilkins on the evening of his inauguration.



George and Martha Mitchell and Joyce and Charles Wilkins at the inaugural dinner.

THE INAUGURAL DINNER-DANCE





Past Presidents of the Society were on the stage with Charles F. Wilkins as he took the office of president of the Society. Present were past presidents Joe Verser, Joe Norton, H. W. Thomas, Ross Fowler, T. E. Townsend, Kemal Kutait, Payton Kolb, George Wynne, Purcell Smith, Morriss Henry, A. E. Andrews, Ben N. Saltzman, and Jack W. Kennedy.



President for 1983-84, Asa Crow, was master of ceremonies for the inaugural dinner-dance.



President Asa Crow presents the Shuffield Award to Arvil Burks, Ed.D.

THE INAUGURAL DINNER-DANCE





Executive Vice President C. C. Long and his wife Wilma, Immediate Past President Morriss Henry and his wife Ann, George Mitchell and his wife Martha, President Asa Crow and his wife Wanda, Chairman of the Council John P. Burge and his wife Eleanor, Secretary James Weber and his wife Cynthia were seated at the head table for the inaugural dinner.



President Crow expresses thanks to the Society for the honor of having served as president during the past year.



Dr. and Mrs. John Abrums of Albuquerque were special guests for the inaugural dinner. Dr. Abrums is president of the American Society of Internal Medicine.

Systems is that a contract of some form exists between the involved parties—patient, organization (HMO, IPA, etc.), and the physician.

The HMO type organization agrees to provide health care service to a patient based upon an annual or monthly fee paid by the individual or the individual's employer. Services may be provided in a central HMO facility or a private office setting under contract with the HMO. The physician, thus, is either an employee of the HMO or agrees to provide services to patients on a contracted basis. In the latter case, the HMO and the physician are at risk as to the cost of care provided.

An Individual Practice Association (IPA) is usually an organization of physicians who agree to provide services to people who enroll and pay a set monthly fee. Services are provided in the physician's own office setting and the contractual arrangement exists between the IPA and the physicians delivering services. The IPA is similar to the HMO in that the number of enrollees determines the income of the organization.

A common characteristic of an IPA is that physicians are paid on a unit of service basis with a portion of that fee being placed in a "risk pool" and if the total cost of delivering care to the group of individuals is equal to or less than the collected enrollment fees, the money from the "risk pool" is distributed to the participating physicians. When the cost of providing care exceeds that allocated, the physicians do not receive any returns from the "risk pool". This method of financing and delivering health care places greater responsibility for the cost of care on the individual physicians and the organization.

The newest form of Alternate Delivery and Financing Systems and the most rapidly growing in number during the first half of the 80's is the Preferred Provider Organization (PPO's). A group of health care providers (the PPO) contracts with third-party payors or insurers to provide services on a discounted basis to the groups that it insures. Services are normally provided in the physician's private office with patients free to select among participating physicians or other non-PPO physicians. However, by choosing the PPO physician the deductible and co-payment is usually waived.

The various forms of Alternate Delivery and Financing Systems have been developed as a method of reducing the increasing cost of health care. From the point of view of the provider of services, this system is viewed primarily as a means of assuring themselves of an adequate volume of patients.

To be successful, the ADFS's must utilize a very strict system for reviewing quality of care and utilization of health care services, especially hospital services.

Laws and Regulations

With rare exceptions, any Alternate Delivery and Financing System would be subject to various Arkansas laws and regulations that apply to health insurance companies. Any group of physicians or any other groups considering organizing, investing in, or becoming associated with an ADFS should receive assurance of compliance with laws and regulations administered by the Arkansas State Insurance Department.

Arkansas Medical Society Position

The Arkansas Medical Society recommends a continued study of the concept of alternate delivery systems.

The Arkansas Medical Society further recommends that any system of financing health care involving payment for services to be provided at some future time should be regulated by the Arkansas State Insurance Department. Such regulation would assure individuals or employers as well as health care providers that money paid for future health care is adequate to insure that the ADFS remains solvent.

REPORT OF THE COMMITTEE ON CANCER CONTROL

Ronald D. Hardin, M.D., Chairman

It is the desire of the Cancer Committee to become more active in the near future. Particularly, we would like to initiate a cooperative plan with the American Cancer Society for colorectal cancer screening throughout the State of Arkansas. At this time, studies are in progress to see what the cost effectiveness would be for providing hemoccult cards in a mass screening effort.

Appropriate meetings are being held with the American Cancer Society and with Mr. Herb Truxton, Director of Professional Education/ Service and Rehabilitation. Also, Ms. Linnie Bisgood, the Public Relations Specialist for the American Cancer Society has been involved in these meetings.

The tentative plan is to conduct a local screening effort to determine the response to a program whereby hemoccult cards would be given free to the public and developed free of charge by the

physicians in the area. Any positive cards would be evaluated by the physicians locally. We are not sure at this point what the response would be and what the expense would be and we have done some preliminary talking with physicians in the Stuttgart area to see if they would be willing to serve as a model program.

If we were able to see that cost effectiveness of massive screening for colorectal cancer on a yearly basis was valuable, it may well be that free hemoccult cards could be provided to physicians who are interested in participating throughout the State. Newspaper and radio and television media would also be utilized, hopefully, free of charge. Specialists with the American Cancer Society, would help coordinate this.

In summary, the primary thrust of the Cancer Committee for the next year would be to implement a statewide colorectal cancer screening project in cooperation with the American Cancer Society. The final decision regarding whether to implement this program would only be after using a local area as a model for study and after approval by the Arkansas State Medical Society.

RESOLUTION FROM THE UNION COUNTY MEDICAL SOCIETY

RE: Compensation Method for Professional Fees

WHEREAS, various changes have occurred recently in the rationale which affects how physicians should be compensated for their professional services, and

WHEREAS, current methods of compensation for physicians' professional services are affected significantly by the fiscal policies of "third party" payors, and

WHEREAS, inequities in the indemnification of several types of medical problems are thought to exist,

BE IT RESOLVED that the Union County Medical Society, through this resolution, petitions the House of Delegates of the Arkansas Medical Society to direct that a study be structured to address the COGNITIVE versus the PROCEDURAL aspects of the practice of Medicine and Surgery, in regard to physician compensation policies.

CONSTITUTIONAL AMENDMENTS APPROVED

The House approved the following amendments to the Constitution and Bylaws:

1. *Delete Section 3 of Chapter V, which reads:*
 Any person known to have solicited votes for or sought any office within the gift of this Society shall be ineligible for any office for two years.
2. *Add to Section 4 of Chapter V so that it will read:*
 No member shall be eligible to any office of this Society who is not in attendance at the meeting at which the election is held. Exceptions may be made by the House of Delegates if the nominee is unable to be present because of circumstances beyond his control.
3. *Add paragraph "c" to Section 3, Chapter I:*
 New active members of the Society entering practice in Arkansas shall be exempt from dues from the date of entry into practice until the next regular dues period. The following year, the dues assessment shall be one-half the total amount. Thereafter, full dues are payable.

FINAL SESSION

HOUSE OF DELEGATES

Speaker Chudy called the final session of the House of Delegates to order at 10:00 a.m. on Sunday, April 15th.

Invocation was given by Ken Lilly.

Those in attendance at the last session were COUNTY DELEGATES: ARKANSAS, G. L. Guyer; ASHLEY, D. L. Toon; BAXTER, John F. Guenthner; BENTON, E. H. Ball; BOONE, Robert H. Langston; CARROLL, Paul J. Bubak; CHICOT, Tom Tvedten; CLARK, N. R. Ritter; CLEBURNE, Thomas L. Eans; COLUMBIA, John L. Ruff; CRAIGHEAD-POINSETT, Don Vollman; CRAWFORD, Millard C. Edds; CRITTENDEN, C. Herbert Taylor; DALLAS, Don G. Howard; FAULKNER, Bob Benafield; FRANKLIN, David L. Gibbons; GARLAND, James

Gardner, J. Richard Gardial, Deno Pappas; GREENE-CLAY, J. Darrell Bonner; HEMPSTEAD, James W. Branch, Sr.; JACKSON, Ramon Lopez; JEFFERSON, John Crenshaw, George V. Roberson, L. A. Forestiere; LITTLE RIVER, John A. Gillean; LONOKE, Jerry C. Chapman; MISSISSIPPI, Sybil R. Hart; MONROE, N. C. David, Jr.; NEVADA, Michael C. Young; OUACHITA, Robert H. Nunnally; PHILLIPS, Robert Miller; POPE, Frank Lawrence, James Burgess; PULASKI, Edgar Easley, Robert F. Shannon, Kelsy J. Caplinger, John M. Smith, Gordon P. Oates, John Pike, Fred O. Henker, III, Warren C. Boop, Jerry Mann, Charles H. Crocker, David L. Barclay, Charles H. Rodgers, J. Mayne Parker, Fred J. Kittler, Douglas E. Young, Paul J. Cornell, Marvin Leibovich, David Hall; SEBASTIAN, Morton C. Wilson, A. C. Bradford, J. D. Busby; TRI-COUNTY, David E. Ducker; UNION, Willis M. Stevens, Robert R. Sykes; VAN BUREN, John A. Hall; WASHINGTON, J. E. McDonald, II, Charles H. Chalfant, Morriss Henry, Joe McAlister, James D. Sharp; WHITE, Daniel S. Davidson; YELL, James L. Maupin. PRESIDENT, Charles F. Wilkins, Jr.; IMMEDIATE PAST PRESIDENT, Asa A. Crow; FIRST VICE PRESIDENT, Warren Douglas; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER OF THE HOUSE, Paul A. Wallick; SECRETARY, James R. Weber; TREASURER, James M. Kolb, Jr.; COUNCILORS Merrill J. Osborne, Larry Lawson, Jim E. Lytle, John E. Bell, John Hestir, L. J. P. Bell, Lloyd G. Langston, John P. Burge, George Warren, Cal R. Sanders, F. E. Joyce, James D. Armstrong, E. K. Clardy, W. Ray Jouett, William N. Jones, Frank E. Morgan, Harold D. Purdy, Charles W. Logan, Richard N. Pearson, W. P. Phillips, and Ken Lilly; PAST PRESIDENTS Charles R. Henry, Joe Verser, C. R. Ellis, Joseph Norton, Ross Fowler, Ben N. Saltzman, W. Payton Kolb, George F. Wynne, A. E. Andrews, Kemal Kutait and Purcell Smith, Jr.

Speaker Chudy introduced John Abrums of Albuquerque, New Mexico. Dr. Abrums is immediate past president of the New Mexico Medical Society and the president of the American Society of Internal Medicine.

W. P. Phillips, chairman of the Nominating Committee, presented the proposed slate for 1984-1985:

President-Elect: John P. Burge, Lake Village
A. E. Andrews, Texarkana
First Vice President: Charles H. Rodgers, Little Rock
Second Vice President: Morton Wilson, Fort Smith
Third Vice President: Harvey Harmon, Blytheville
Secretary: James R. Weber, Jacksonville
Treasurer: James M. Kolb, Jr., Russellville
Speaker, House of Delegates: Amail Chudy, North Little Rock
Vice Speaker, House of Delegates: Sybil Hart, Blytheville

Councilors:

District 1: Larry Lawson, Paragould
District 2: John Bell, Searcy
District 3: L. J. P. Bell, Helena
District 4: Paul Wallick, Monticello
District 5: Cal Sanders, Camden
District 6: James Armstrong, Ashdown
District 7: Ronald Bracken, Hot Springs
District 8: William N. Jones, Little Rock
Frank Morgan, North Little Rock
Harold Purdy, Little Rock
District 9: Robert H. Langston, Harrison
District 10: Ken Lilly, Fort Smith

Dr. Andrews asked that his name be removed from the slate and Dr. Burge was elected by acclamation. Dr. Burge addressed the House as follows:

"Thank you, gentlemen. After bearing witness to the oratorical expertise of our silver-tongued colleague, I think some of us might want to ask him to reconsider. I think, actually, the song I thought he was going to use was 'I've Enjoyed About All of This I Can Stand.'

"Traditionally, this is a short acceptance speech and it will be no different this year but I would like to make one comment and offer thanks to two particular groups I've had the privilege of working with over the past few years.

"This Society, in the time that I've been a member of the Council, has been through some real trying times. To follow another song—not country-western—but 'The Times They Are A Changing.' I've been privileged to work with a group of men called the Council of the Medical Society and over this particular period of time we have had issues that would have divided and pos-

sibly destroyed a lesser group of men. I just want to say at this point that it was a real privilege to work with you and I will look forward to working with you in a new capacity.

"The second group is, of course, the staff of the home office who have made it all worthwhile. They've kept me out of trouble and kept me up-to-date and I want to offer thanks to them, too.

"It's the greatest honor of my life to be named president-elect of the Society and I'll make every effort to be worthy of your trust."

The House unanimously elected other nominees as presented by the Nominating Committee.

Speaker Chudy reinforced Dr. Burge's remarks about the staff and asked that the House show an expression of appreciation for the work done by those at the headquarters office. The House responded with a standing ovation.

Appreciation was also expressed to the Annual Session Committee for its work and to the Auxiliary for the support and work by them.

Speaker Chudy requested that members of the respective Reference Committees be seated at the front of the room during presentation of the reports. He then called upon Warren Douglas, chairman of Reference Committee Number One, to present the first report.

REPORT OF REFERENCE COMMITTEE NUMBER ONE

Mr. Speaker and members of the House of Delegates, members of the Reference Committee Number One were Drs. J. Larry Lawson of Paragould, Herbert Taylor of West Memphis, Frank Lawrence of Russellville, Charles Crocker of Little Rock and myself as chairman.

Your Reference Committee gave careful consideration to the items referred to it and makes the following report:

1. Committee on Medical Legislation

 Mr. Speaker, your Reference Committee commends the committee on Medical Legislation and recommends that the report be received for information.

2. Sub-Committee on National Legislation

 The committee presented additional information on three issues:

 (1) Dr. Kolb reported that the House of Representatives is considering today (April 12th) the issue of mandatory acceptance of assignment for Medicare patients.

 (2) There is a move afoot to create a Department of Health and separate it from the present Department of Health and Human Services.

 (3) The "Baby Doe" issue remains unresolved in the courts.

 Mr. Speaker, your Reference Committee recommends the report be received for information.

3. Mr. Speaker, the Reference Committee recommends the following reports be received for information.

 Committee on Hospitals

 Sub-Committee on State Health and Medical Resources for Civil Defense

 Annual Session Committee

 Report of the Executive Vice President

4. Budget Committee

 Mr. Speaker, your Reference Committee recommends that the Society budget for 1984 as published be adopted.

 Dr. Hestir informed the committee that he anticipates an increase in expenditures within the next year or two due to increase in cost of leasing, buying, or moving the State office.

 Mr. Speaker, your Reference Committee recommends that this be received for information by the House.

5. Report of the American Medical Association Delegate

 Mr. Speaker, your Reference Committee recommends that this report be received for information.

 Mr. Speaker, I move adoption of the entire report of this Reference Committee.

Mr. Speaker, this concludes the report of your Reference Committee Number One. I wish to thank those who appeared before the Reference Committee and my fellow members of the Committee.

The Report of Reference Committee Number One was approved by the House as presented.

Speaker Chudy asked Charles H. Rodgers for the report of Reference Committee Number Two.

REPORT OF REFERENCE COMMITTEE NUMBER TWO

Mr. Speaker and members of the House of Delegates, members of the Reference Committee were Drs. Cal Sanders of Camden, Ken Meacham of Searcy, Hoy B. Speer of Stuttgart, Robert Sykes of El Dorado and myself as chairman.

Your Reference Committee gave careful consideration to the items referred to it and makes the following report:

CHARLES WILKINS BECOMES PRESIDENT OF THE SOCIETY



George Mitchell introduced the new president, Charles F. Wilkins, Jr.



Dr. Wilkins approaches the podium to take the oath of office.





Members of the Executive Committee and their wives applaud the new president.

CHARLES WILKINS BECOMES PRESIDENT OF THE SOCIETY



Asa Crow administers the oath of office of the president of the Arkansas Medical Society to Charles F. Wilkins, Jr.



The gavel, symbol of the office of president, passes from Asa Crow to Charles Wilkins.





Dr. Wilkins begins his presidency and addresses the membership.

CHARLES WILKINS BECOMES PRESIDENT OF THE SOCIETY



President Charles F. Wilkins and his family on the evening of his inauguration. Left to right, Laura and Captain William H. Speer; Charles F. Wilkins, III, Joyce Wilkins, Charles Wilkins, Michael and Teresa Wilkins, Wanda and Dr. Shelby Hefland.



Dr. and Mrs. Wilkins and their children Charles III, Laura, Wanda, and Michael.

CONVENTION FUNCTIONS



Johnny Price of Monticello (left) served as secretary of the Fifty Year Club of the Arkansas Medical Society during the past year, while Milton C. John of Stuttgart (right) was president of the Club for the year.



Present for the luncheon meeting of the Fifty Year Club of the Arkansas Medical Society were Oba White, Jim McKenzie, Henry Kirby, W. J. Ketz, Johnnie Price, Ralph Hamilton, Milton John, Roy Millard, John McCollough Smith, C. W. Rasco, Elizabeth Fletcher Dishongh, A. C. Modelevsky, Edgar Easley, Vance Strange, W. J. Schwarz, and John W. Harper.



Physicians who had served as president of the Arkansas Medical Society were guests of the Society for a luncheon meeting on Friday, April 13, at the Capital. Present were Ross Fowler, H. W. Thomas, Robert Watson, Ben N. Saltzman, Morriss Henry, Purcell Smith, Asa Crow, Payton Kolb, Joe Norton and C. R. Ellis.

1. Resolution from the Boone County Medical Society regarding Emergency Medical Services.

 After testimony, the committee recognized the following points:

 (A) There apparently was a misinterpretation of regulations by the Emergency Medical Services Office of the Arkansas State Department of Health and the Boone County Hospital.

 (B) The primary failure of communication and interpretation of EMS regulations concerned ambulance transfers between hospitals and institutions.

 (C) This misinterpretation was clarified in the Reference Committee hearing. The committee feels that we do not need to resort to legislative action at this time as suggested by resolution.

 (D) The Emergency Medical Services Office agreed to work with the Society in resolving any differences.

 Your reference committee recommends that the resolution as written by the Boone County Medical Society not be adopted but that the matter be referred to the Committee on Public Health to look into clarification of the regulations.

 The Reference Committee also discovered from testimony the existence of a Governor's Advisory Commission on Emergency Medical Services. It was brought out in the hearings that the Arkansas Medical Society currently has no input into the selection of members for the four physician positions on that commission.

 Your Reference Committee recommends that the Arkansas Medical Society petition the Governor for the physician positions on this committee utilizing the expertise of the appropriate specialty components of the Society, e.g., the College of Emergency Physicians, College of Surgeons, Academy of Family Physicians and other interested parties.

 Mr. Speaker, your Reference Committee recommends the adoption of this report as amended.

2. Report of the Committee on Continuing Medical Education

 Your Reference Committee commends the Committee on Continuing Medical Education for its successful efforts in accrediting the various organizations listed in its report.

 Your Reference Committee agrees with the recommendation of the CCME for adoption of the new Essentials for Accreditation of Sponsors of Continuing Medical Education. We recommend approval of the fee increase for application processing as recommended by the CCME.

 Mr. Speaker, your Reference Committee recommends the adoption of the report of the Committee on Continuing Medical Education as written.

3. Report of the Public Relations Committee

 Your Reference Committee commends the Public Relations Committee for its diligent efforts in increasing public awareness of the Arkansas Medical Society, its programs, and other health related problems.

 Mr. Speaker, your Reference Committee recommends the adoption of the Public Relations Committee report as written and recommends the adoption of the resolution offered by the Public Relations Committee on providing medical services to the unemployed.

 During testimony received concerning this report, it was pointed out by Dr. Guyer of Stuttgart that the Medical Society is in need of a program for orientation of new members and new delegates. Mr. Speaker, your Reference Committee recommends that the AMS address this proposal.

4. Reports of the Professional Relations Committees for the Ninth Councilor District and the Tenth Councilor District

 Mr. Speaker, your Reference Committee recommends that the reports of these two committees as written be received for information of the House of Delegates.

5. Report of the Arkansas Medical Society Political Action Committee

 Mr. Speaker, your Reference Committee commends the AMS-PAC for their efforts in increasing membership over the past year by 45%.

 Mr. Speaker, Reference Committee #2 recommends that the Report of the Arkansas Medical Society Political Action Committee be received for information.

6. Report of the Committee on Public Health

 Mr. Speaker, your Reference Committee #2, after consideration of the testimony at the committee hearing, recommends the following amendments to the report of the committee:

(A) Item 6: Since the Rural Health Conference is felt to be beneficial to many lay people at very little cost, the committee recommends that it not be abandoned as recommended by the Committee on Public Health. This recommendation is in agreement with testimony given by Dr. Saltzman, the State Health Department Director.

(B) Item 11: The Reference Committee does not agree with the resumption of routine smallpox immunizations since no case of smallpox has been reported in the United States over the past three years as evidenced by knowledgeable members of the State Health Department.

(C) Item 8: Your Reference Committee agrees with Item #8 and recommends that the AMS work toward alerting the membership of the Society of possible abuses of the Home Health Care Program and, hence, help to control costs.

Mr. Speaker, your Reference Committee recommends the adoption of the report of the Committee on Public Health as amended.

7. Report of the Arkansas Department of Health

Mr. Speaker, your Reference Committee commends Dr. Saltzman and his staff for the thorough report on their activities over the past year and for the diligence with which they have discharged their duties.

Mr. Speaker, your Reference Committee recommends that the House receive the report of the Arkansas Department of Health for information.

Mr. Speaker, I move adoption of the entire report of this Reference Committee (as amended, as grammitically corrected, as applicable).

Mr. Speaker, this concludes the report of your Reference Committee Number Two. I wish to thank those who appeared before this Reference Committee, my fellow members of the Committee, and those members of the staff who assisted us.

The House approved the report of Reference Committee Number Two as presented.

REPORT OF REFERENCE COMMITTEE NUMBER THREE

The report of Reference Committee Number Three was presented by James Gardner.

Mr. Speaker, members of the House of Delegates and honored guests: Your Reference Committee gave careful consideration to the items referred to it and makes the following report.

1. Report of the Council

Items discussed in depth were (a) feasibility study by Williams Consulting Services of Jonesboro, Arkansas; (b) the one year fee freeze motion proposed by the Executive Committee of the Council.

Those who appeared before the Reference Committee were in general agreement that the Society offices should be moved to a central location and should be owned and built by the Society. It is strongly recommended by the Reference Committee that:

(A) A committee of the Council be named to work out the details of the move so that continuity of service to the Society *not* be impaired and

(B) a branch office be established in Little Rock, Arkansas, *immediately* to facilitate interfacing with legislative elements this year and to begin training new staff as attrition occurs in the Fort Smith staff.

Mr. Speaker, I move adoption of these recommendations.

(Because of the importance of this motion, Speaker Chudy asked for a separate vote on this one item. The motion was unanimously approved by the House of Delegates.)

(C) The Council has recommended to the physicians of the Arkansas Medical Society that they accept a voluntary freeze on their fees for a period of one year.

Mr. Speaker, your Reference Committee recommends adoption of this portion of the Council report.

Councilor Lloyd Langston spoke regarding this proposal. His comments and a proposed amendment were:

I feel that the continuous escalation of the cost of medical care is not primarily the result of physician fees, but rather a result of all sections involved in the delivery of health care. I propose an amendment to the recommendation of the reference committee. If this report is accepted, I move the recommendation include a challenge to and encouragement to all that are involved in the delivery of health care to observe the same voluntary freeze of fees for the next year.

The House voted to accept the amendment to the reference committee recommendation as proposed by Dr. Langston.

(D) The Council has recommended to the House that the late Elvin Shuffield be named an Honorary Past President of the Arkansas Medical Society. It has been recommended that a plaque reflecting this honorary title be presented to Mrs. Shuffield. Dr. Shuffield was also honored by having the Senate Infirmary at the Legislature named for him. The Society's Layman Award has been named the "Shuffield Award" honoring both Dr. Elvin Shuffield and his father, Dr. Joe Shuffield, a past president of the Society. The Society has also voted to establish an annual Shuffield Lecture in connection with the Annual Session of the Arkansas Medical Society. The American Physicians Insurance Company has created a Student Leadership Award at the Medical School in honor of Dr. Shuffield. These actions are tokens of gratitude for the long and dedicated service of Dr. Shuffield.

Mr. Speaker, your Reference Committee Number Three recommends adoption of the Report of the Council as amended.

2. Sub-Committee on Maternal and Child Welfare — Dr. Robert Fiser

 Reference Committee Number Three commends the committee for its work and recommends the referral of its report back to the committee. No one appeared to clarify or answer questions.

3. Committee on Position Papers — Dr. James Kolb

 Reference Committee Number Three commends the committee for its work on the position papers submitted to the Council and recommends adoption of the position papers proposed.

4. Professional Relations Committee of the Eighth Councilor District — Dr. James Rasch

 Reference Committee Number Three commends the committee and recommends the report be received for the information of the House.

5. Report of the Councilors from the Fifth District

 Reference Committee Number Three commends the councilors and recommends the report be received for the information of the House.

6. Report of the Councilors from the Eighth District

 Reference Committee Number Three commends the councilors and recommends the report be received for the information of the House.

7. Report of the Medical Education Foundation for Arkansas — Dr. Martin Eisele

 Reference Committee Number Three commends the Foundation for its work with the Medical School and recommends the report be received for the information of the House.

8. Report of the Arkansas State Medical Board — Dr. George Wynne

 Reference Committee Number Three commends the Board for its difficult work and recommends the report be received for the information of the House.

9. The Reference Committee was delighted to receive a resolution from the Union County Medical Society:

RESOLUTION FROM THE UNION COUNTY MEDICAL SOCIETY

RE: Compensation Method for Professional Fees

WHEREAS, various changes have occurred recently in the rationale which affects how physicians should be compensated for their professional services, and

WHEREAS, current methods of compensation for physicians' professional services are affected significantly by the fiscal policies of "third party" payors, and

WHEREAS, inequities in the indemnification of several types of medical problems are thought to exist,

BE IT RESOLVED that the Union County Medical Society, through this resolution, petitions the House of Delegates of the Arkansas Medical Society to direct that a study be structured to address the COGNITIVE versus the PROCEDURAL aspects of the practice of Medicine and Surgery, in regard to physician compensation policies.

Your Reference Committee recommends that the following substitute resolution be adopted by the House of Delegates of the Arkansas Medical Society and referred to the Arkansas delegation to the American Medical Association for consideration and action:

SUBSTITUTE RESOLUTION

WHEREAS, all physicians (regardless of spe-

cialty) provide a mix of both cognitive and procedural services;

WHEREAS, cognitive services can be defined as those services that directly employ the physicians' perception, judgment and knowledge in caring for the patient.

WHEREAS, technological procedures involve the use of technology and/or manual skills to obtain clinical data or to treat disease;

WHEREAS, most existing reimbursement systems provide disproportionately low allowances for such cognitive services as complete histories and physical examinations, house calls, office, nursing home and hospital visits, and medical and surgical consultations in comparison to procedural services;

WHEREAS, many technological procedures also require considerable cognitive skill and judgment on the part of the physician providing the procedure;

WHEREAS, the cognitive skills required to provide those procedures are also reimbursed at a disproportionately low level compared to the actual performance of the procedure;

WHEREAS, this reimbursement discrepancy may contribute to high medical care cost by rewarding physicians for ordering tests and procedures, and by penalizing them for spending time with the patients and deciding not to order costly procedural services;

WHEREAS, there is a growing body of opinion and research to support the concept that a reimbursement system that better rewards cognitive services would help moderate medical care expenditures and promote the kind of caring, personalized approach to health desired by most patients and physicians alike;

THEREFORE, BE IT RESOLVED, that the Arkansas Medical Society support the concept that third party payors should provide more equitable reimbursement for physicians' cognitive services in comparison with their procedural services, and

BE IT FURTHER RESOLVED that the Arkansas Medical Society, through this resolution, petitions the House of Delegates of the American Medical Association to direct that a study be structured to address the cognitive versus the procedural aspects of practice of medicine and surgery in regard to physician compensation.

The House voted to accept the substitute resolution as presented by the Reference Committee and amended.

10. Committee on Cancer Control – Dr. Ron Hardin

 Reference Committee Number Three commends the committee for its work. Those who appeared in front of the Reference Committee recommended that physicians be intimately involved in both the implementation and completion of this pilot program and further recommends that two different areas be selected for the pilot program. The Reference Committee Number Three concurs with those recommendations and suggests a six-month pilot program be initiated with the above changes and that a report be submitted to this committee at the 1985 convention.

Mr. Speaker, I move adoption of the entire report of this Reference Committee as amended.

The House then voted adoption of the Report of Reference Committee Number Three as amended.

Mr. Speaker, this concludes the report of Reference Committee Number Three. I wish to thank those who appeared before this committee, my co-workers on the committee, and the Arkansas Medical Society staff who assisted us.

Speaker Chudy thanked all those who served on the Reference Committees for their diligence in carrying out a difficult assignment.

Speaker Chudy asked Joe Verser to escort Mrs. Elvin Shuffield to the podium. Mrs. Shuffield expressed appreciation to the members of the Medical Society for all of the honors given Dr. Shuffield.

Chairman of the Council, John P. Burge, was recognized for a Report on Council actions taken during the annual meeting. (Report follows minutes.) Upon motion of Wynne, the House adopted the Report of the Council as presented.

Speaker Chudy announced nominations for positions on the Arkansas State Medical Board and the Arkansas State Board of Health:

State Medical Board–District 4:
George Wynne, Warren

State Board of Health–District 1:
Asa Crow, Paragould
Don Vollman, Jonesboro
Milton Deneke, West Memphis

State Board of Health–District 5:
James Maupin, Dardanelle
Charles F. Wilkins, Jr., Russellville
W. Ernest King, Russellville

CONVENTION FUNCTIONS



Past Presidents of the Society visit prior to the luncheon at the Capital on Friday.



Secretary James Weber applauds as Asa Crow approaches the podium for his President's Address to the House of Delegates on April 12. Speaker Amail Chudy was presiding at the House session.



Asa Crow of Paragould addresses the House of Delegates on Thursday, April 12, 1984.



Hugh Ritter, of St. Louis, a member of the Board of Trustees of the American Medical Association, addressed the House of Delegates on Thursday.

THE COUNCIL RECEPTION



Receiving guests at the reception hosted by the Council were members of the Executive Committee and their wives: Chairman of the Council John P. Burge and Mrs. Burge; President Asa Crow and Mrs. Crow; President-elect Charles Wilkins and Mrs. Wilkins, Secretary James Weber and Mrs. Weber.







The buffet table for the Council party.





AROUND THE CONVENTION

















The nominations were approved, upon motion of Ray Jouett.

Speaker Chudy announced that there would be a brief meeting of the Council immediately following the House of Delegates.

There being no further business, the 108th meeting of the Arkansas Medical Society adjourned at 11:00 a.m.

REPORT OF THE COUNCIL

John P. Burge, Chairman

The Council met on Thursday, April 12, and transacted the following business:

1. Approved requests for dues-exempt memberships as requested by the component societies.
2. Approved the report of the audit of the Society financial records for the year 1983.
3. Approved the loan of $8,000 to the Auxiliary for its cookbook project with the understanding that the first $8,000 in receipts would repay the loan.

One other item of business conducted by the Council on Thursday was reported to the House for consideration that day—that item was action on the office feasibility study.

The Council met on Friday, April 13, and took action as follows:

1. Approved the reappointment of Neil Sims, George Warren, Payton Kolb, James Weber and Thomas Bruce on the Position Papers Committee.
2. Elected Rhys Williams to a position on the Board of Trustees of the Arkansas Medical Society Pension Plan.
3. Selected the following for appointment to the Medical Services Review Committee:

 Representing Surgery:
 James A. Simpson, Searcy
 Representing Family Practice:
 R. Jerry Mann, Little Rock
 Representing Internal Medicine:
 David Crittenden, Fayetteville
 Representing Obstetrics/Gynecology:
 A. Tharp Gillespie, Little Rock
 Representing Pediatrics:
 John W. Trieschmann, Hot Springs
 Representing Pathology:
 Frederick A. Joyce, Texarkana
 Representing Orthopaedics:
 Peter Dornenburg, Little Rock

 The Council selected Charles Rodgers of Little Rock to succeed Charles F. Wilkins, Jr., as chairman of the Medical Services Review Committee. The Council commended Dr. Wilkins for his service on the MSRC.
4. Mahlon Maris of Harrison was nominated for re-appointment to the Board of Trustees of Arkansas Blue Cross-Blue Shield.
5. James Weber, Payton Kolb and Asa Crow were reappointed to the Board of Trustees of the Arkansas Medical Society Legislative Fund.
6. The Council selected Martin Eisele of Hot Springs for reappointment to the Board of Trustees of the Medical Education Foundation for Arkansas.
7. The Council approved appointment of James Guthrie of Camden to the fifth councilor district position on the Arkansas State Arbitration Commission and John W. Vinzant of Fayetteville to the ninth councilor district position.

 The Council met on Saturday, April 14, and voted to appoint the following to the Board of Directors of the Arkansas Medical Society Political Action Committee:

 John Hestir, DeWitt
 Charles Rodgers, Little Rock
 James M. Kolb, Jr., Russellville
 A. Samuel Koenig, Fort Smith
 Milton Deneke, West Memphis
 Mrs. C. Lynn Harris, Hope
 John Crenshaw, Pine Bluff
 Robert Miller, Helena
 Ken Lilly, Fort Smith
 Mrs. Herbert Taylor, West Memphis
 John Giller, El Dorado
 Richard Martin, Paragould
 Roger Cagle, Paragould
 Mrs. Ramon Lopez, Newport
 Mrs. J. E. McDonald, Fayetteville
 Dr. Paul Meredith, Texarkana

The Council considered the possible effect of the extended racing season on the 1985 convention scheduled for Hot Springs April 17-21 and directed that inquiries be made regarding a change in the time and/or location for the meeting.

The Council met on Sunday, April 15, and took the following actions:

1. Approved a change in the employee pension plan providing for employee-participant directed accounts.
2. Approved a change in the pension plan to provide for 100% vesting after six years.
3. Considered the impact of the racing season on plans for the 1985 meeting in Hot Springs and

voted to modify the program schedule to allow free time.

4. Endorsed a proposal by the executive vice president to have the professional relations coordinator work with the medical students, interns and residents, in promoting Medical Society membership.

5. Approved appointment of the following to the Cost Effectiveness Committee:

 Purcell Smith, Chairman
 Charles Wilkins
 Cal Sanders
 Milton Deneke
 William H. Riley
 John Crenshaw
 Morriss Henry

SCIENTIFIC SESSIONS

The theme for the scientific sessions was "Management of Chronic Disease". Thomas A. Bruce was chairman of the Program Committee. Dr. Bruce presided at the opening session on Friday morning, April 13. Harry W. Flynn, Jr., of the Bascom Palmer Eye Institute in Miami, Florida, presented the first lecture on "Management of Diabetic Retinopathy". Other speakers included Robert A. Jahrsdoerfer, Chairman of the Department of Ophthalmology at the University of Texas Medical School at Houston, who spoke on "Chronic Ear Disease—The Ultimate Sound Barrier"; Daniel M. Spengler, Chairman of the Department of Orthopaedics at Vanderbilt University Medical Center, whose topic was "Management of Acute and Chronic Low Back Pain"; Robert W. Barnes, Chairman of the Department of Surgery at the University of Arkansas College of Medicine, "Peripheral Vascular Disease"; James C. Breneman, Galesburg, Michigan, "Food Allergy".

Charles H. Rodgers, second vice president and convention chairman, presided at the second general session on Friday afternoon. Robert E. Rude, Assistant Professor of Internal Medicine at Southwestern Medical School, spoke on "Modern Management of Angina"; Dr. Rude's appearance was sponsored by CIBA Pharmaceuticals. Eugene McNabb with the Medical and Pulmonary Services of the Little Rock Veterans Administration Hospital, spoke on "Nicotine Gum to Aid Smoking Cessation". G. B. Stickler, Professor of Pediatrics at Mayo Medical School, presented a paper on "Panic Attack Syndrome in Children and Adolescents". Kenneth G. Goss, Professor and Chairman of the Department of Family and Community Medicine at the University of Arkansas College of Medicine, discussed "Care of the Chronically Ill by the Family Physician". David Lipschitz, Professor of Medicine at the University of Arkansas College of Medicine, presented "Nutrition and Aging". The final speaker on the afternoon program was Ed McGuire, Chairman of the Section of Urology at the University of Michigan Medical School in Ann Arbor, his topic was "Urinary Incontinence in the Elderly".

The Saturday morning general session program was presided over by James L. Gardner, third vice president. The program included "Management of Psoriasis" by Gregory Dwyer of Little Rock; "Management of Patient with Chronic Urticaria" by Jere D. Guin, chairman of the Department of Dermatology at the University of Arkansas College of Medicine; "Current Concepts in Chronic Pain Management" by Harold Carron, Professor of Anesthesiology and Consultant to Pain Management Center at the University of Virginia Medical Center; and "Chronic Illness During Pregnancy" by Franklin C. Miller, Chairman of the Department of Obstetrics and Gynecology at the University of Arkansas College of Medicine.

SOCIOECONOMIC SEMINAR

A program on "Diagnosis Related Groups (DRG's) and Alternative Delivery Systems" was presented with Purcell Smith, chairman of the Cost Effectiveness Committee, presiding. Mr. Walter L. Weisman, President of American Medical International, spoke on "Impact of DRG's on Hospital Care and Medical Practice". Robert H. Taylor, member of the Board of Directors and chairman of the Committee on Health Care Services of the American Academy of Family Physicians, of Spartansburg, South Carolina, discussed "Alternative Delivery Financing Systems". Mr. Robert Shoptaw of Blue Cross-Blue Shield of Arkansas and W. H. Riley of Little Rock discussed "Alternative Delivery System Plans in Arkansas". There was a panel discussion with all speakers participating. Mr. Allen Smith of Baptist Medical Center in Little Rock was also a panelist.

RELATED MEETINGS

The Arkansas Chapter of the American College of Surgeons met for a luncheon on Friday, April 13 with Mr. Michael O'Brien, Trust Officer with Union National Bank in Little Rock, presenting a paper on "Principles of Establishing and Maintaining an Estate". Larry Lawson is president of the Chapter, Charles W. Logan is vice president, and Samuel E. Landrum is Secretary-Treasurer.

The Arkansas Academy of Ophthalmology met at 9:00 a.m. on Saturday, April 14, with Harry W. Flynn, Jr., of the Bascom Palmer Eye Institute in Miami as guest speaker. His subject was "Vitreo Retinal Problem and Psuedo Phakic Patient". Carol Chappell of Little Rock is secretary of the Academy. Michael Roberson of Little Rock is president of the Arkansas Ophthalmological Society and John Williamson of El Dorado is Secretary-Treasurer.

The Otolaryngology-Head and Neck Surgery group met at 9:00 a.m. on Saturday, April 14, with Robert A. Jahrsdoerfer as guest lecturer. He discussed "Congenital Middle Ear Malformation", "Tympanoplasty 1984", and "Ventilation Tubes: Fact, Fiction and Failure". Edwin Harper of Hot Springs is president of the group, John R. E. Dickins of Little Rock is president-elect, and Dwayne Ruggles of Little Rock is secretary-treasurer.

The Arkansas Urologic Society held a luncheon meeting on Saturday, April 14. Ed McGuire, chairman of the Section of Urology at the University of Michigan, was guest speaker. Steve Wilson of Fort Smith was elected president of the Society and Ladd Scriber of Jonesboro was elected secretary.

The Arkansas Society of Anesthesiologists met on Saturday, April 14, for a luncheon with Harold Carron speaking on "Epidural Narcotics". Arlee Pollard of Little Rock is president of the Society; Carmelita Pablo of Little Rock is Secretary.

The Arkansas Orthopaedic Society held its annual meeting during a luncheon on Saturday, April 14. Jerry Thomas of Little Rock was named president of the Society and Robert H. May of Russellville was named secretary-treasurer.

The Arkansas Chapter of the American College of Radiology held a luncheon meeting on Saturday, April 14. Murray T. Harris is president of the Chapter and Marolyn Speer is Secretary.

The Arkansas Pathology Society met in business session during luncheon Saturday, April 14. John Boyce of Springdale was elected president of the Society and Robert A. Burger was elected secretary.

The Arkansas Neurosurgeons held a luncheon and business session on April 14. William Chadduck of Little Rock is secretary of the group.

The Arkansas Society of Internal Medicine held a luncheon meeting on Saturday, April 14, with the president of the American Society of Internal Medicine, John Abrums of Albuquerque, as its guest. Jerry Stewart of Fort Smith is presi-

dent of the Arkansas Society, John Crenshaw of Pine Bluff is president-elect, and Jack L. Blackshear is secretary-treasurer.

The Arkansas Section of the American College of Obstetricians and Gynecologists held a luncheon meeting on Saturday, April 14, with David L. Barclay of Little Rock presiding as chairman of the section.

The Arkansas Academy of Family Physicians met on Saturday, April 14, with president Charles H. Rodgers presiding. The Chapter's guest for the meeting was Robert H. Taylor, a member of the Board of Directors of the American Academy of Family Physicians.

OTHER ACTIVITIES

SLIDES BY DR. ELLIS

C. Randolph Ellis, a past president of the Society, had a continuous showing of slides from past conventions in the exhibit hall for the convention. The Society expresses its thanks and appreciation to Dr. Ellis for making the slides available for viewing by the membership.

EXHIBIT DRAWINGS

Lucky winners of cash prizes in the exhibit hall were Russell Cobb, Harold Hedges, Paul J. Bubak, H. W. Keisker, Oliver Wallace, Darrell Bonner, J. H. McAlister, and Sanford E. Hutson.

PRESIDENTS' LUNCHEON

Physicians who have served as president of the Arkansas Medical Society were guests of the Society for a luncheon on Friday, April 13, in the Capital Hotel. Present were Morriss Henry, Purcell Smith, Jr., George F. Wynne, W. Payton Kolb, T. E. Townsend, Ben N. Saltzman, Robert Watson, Ross Fowler, H. W. Thomas, C. R. Ellis, and Joseph Norton.

FIFTY YEAR CLUB

Members of the Society who began practice fifty years ago this year were welcomed to the Fifty Year Club of the Arkansas Medical Society at its annual luncheon meeting on Friday, April 13. Milton C. John of Stuttgart served as president of the club during the past year and John Price of Monticello was secretary. The program for the meeting was showing of a film on the life of Sir William Osler.

New members of the club this year are Frank Adams of Hot Springs; Daniel Autry, Elizabeth Fletcher Dishongh, Vida Gordon, Oscar Kozberg, W. J. Schwarz, and E. Lloyd Wilbur, all of Little Rock; B. L. Church of North Little Rock; LeMon Clark of Fayetteville; Ralph Hamilton of West Memphis; John W. Harper of El Dorado; Jabez Jackson of Newport; W. J. Ketz of Batesville; A. C. Modelevsky of Jonesboro; C. W. Rasco, Jr. of DeWitt; and Vance Strange of Stamps.

Present for the luncheon were President John, Secretary Price, new members Wilbur, Harper, Hamilton, Schwarz, Ketz, Modelevsky, Strange, Rasco, and Dishongh; other members Oba White, Jim McKenzie, Henry Kirby, Edgar Easley, John McCollough Smith, Roy Millard, and guest Gilbert Dean. C. W. Rasco, Jr., was elected president and Elizabeth Fletcher Dishongh was elected secretary.

PRAYER BREAKFAST

The Committee on Medicine and Religion, chaired by Walter H. O'Neal, sponsored a Prayer Breakfast on Sunday morning, April 15. The Devotional was given by Carl Wenger of Little Rock. Other program participants were Ron Hardin of Little Rock, C. R. Ellis of Malvern, and Rich Brown.

MEMORIAL SERVICE

The Memorial Service arranged by Kelsy Caplinger of Little Rock for Saturday morning, April 14, at 11:30 a.m. included music by the Adult Handbell Choir of Trinity United Methodist Church in Little Rock. The Reverend William D. Elliott of Trinity United Methodist gave the invocation and Dr. Caplinger presented the Scripture reading. Ms. Elizabeth Small was soloist. Mrs. Paul Cornell, president of the Auxiliary, read names of Auxilians who had died during the year. Asa Crow, president of the Society, read names of physicians who had died and led the audience in a litany. Walter H. O'Neal, chairman of the Committee on Medicine and Religion, lighted a candle and there was a toll of a handbell as each name was read.

AROUND THE CONVENTION

















AROUND THE CONVENTION









Members enjoyed dancing to the music of Betty Fowler at the dinner on Saturday evening.



Dr. and Mrs. Charles Rodgers of Little Rock. Dr. Rodgers was convention chairman for the 1984 meeting.



Dr. and Mrs. Charles Wilkins enjoy the Blue Cross-Blue Shield party on Thursday evening.

MORE CONVENTION PHOTOGRAPHS





George and Martha Mitchell, Mrs. Sharon Allen and Mr. Hershel Gardner of Blue Cross-Blue Shield at the party hosted on Thursday evening by BC-BS.





Mr. Dick Clark, Executive Vice President of American Physicians Insurance (API) visits with John Hestir, A. E. Andrews and Kemal Kutait (Dr. Kutait is on the Board of Directors of API).





Wanda and Asa Crow with their daughter Susan and son Greg during the convention.

MORE CONVENTION PHOTOGRAPHS



President Asa Crow visits with President-elect Charles Wilkins, Jr. and his wife Joyce at the Thursday evening party.



Convention Chairman Charles H. Rodgers announces a change in plans for the Friday evening social functions.



Dr. and Mrs. Hugh Ritter of St. Louis were guests of the Society during the Annual Session. Dr. Ritter is a member of the Board of Trustees of the AMA. Dr. Andrews is one of Arkansas' delegates to the American Medical Association.





IN MEMORIAM

*** * AUXILIANS * ***

Mrs. John Brewer, North Little Rock
Mrs. W. Hickman Calaway, Batesville
Mrs. Eugene Crawley, Grosse Pointe, Michigan
Mrs. John G. Cullins, Little Rock
Mrs. Davis W. Goldstein, Fort Smith
Mrs. J. B. Holder, Monticello
Mrs. O. C. Melson, Little Rock
Mrs. L. H. Lanier, Texarkana
Mrs. Charles Ruel, Fort Smith
Dr. Wilma Sacks, Fayetteville

*** * SOCIETY MEMBERS * ***

Carl H. Adams, Little Rock
Robert M. Bransford, Texarkana
R. Frank Bryant, Pine Bluff
John H. Burge, Lake Village
Thomas E. Burrow, Hot Springs
Merl T. Crow, Warren
George W. Dickinson, Fayetteville
Stephen B. Finch, Fayetteville
S. Wright Hawkins, Fort Smith
Carl R. Parkerson, Hot Springs
Chalmers S. Pool, Little Rock
Allyn R. Power, Hot Springs
Robert E. Richardson, Little Rock
G. Allen Robinson, Harrison
Joe F. Rushton, Magnolia
Elvin Shuffield, Little Rock
William A. Snodgrass, Jr., Mobile
Robert G. Valentine, North Little Rock
Carl L. Wilson, Fort Smith

BLUE CROSS-BLUE SHIELD PARTY

Blue Cross-Blue Shield of Arkansas hosted a cocktail reception for all members and guests on Thursday evening. George Mitchell, president, and members of his staff were on hand to extend hospitality. The Society expresses its appreciation to Blue Cross-Blue Shield for being such gracious hosts for a very popular party.

FRIDAY EVENING ACTIVITIES

Boat trips on the Arkansas River had been planned for Friday evening of the convention. Because the river was not considered safe for a cruise, the Social Committee arranged an alternate site for planned activities. The Old State House was opened for members of the Society. Refreshments were served, there were guided tours of the exhibits, and the Happy Tymes Jazz Band provided music. Thanks to Dr. and Mrs. Charles Logan and Dr. and Mrs. Frank Morgan for all their work on the social committee.

The Council hosted a reception at the Excelsior on Friday evening at 7:00 p.m. Members of the Executive Committee and their spouses formed a receiving line to welcome the members of the Society and their guests. The Happy Tymes Jazz Band also provided music for the Council reception. Friday evening was fun and fellowship enjoyed by all.

The Society expresses appreciation to the St. Paul Companies for sponsoring the Happy Tymes Jazz Band.

API COCKTAIL PARTY

American Physicians Insurance Exchange hosted a cocktail party for members of the Medical Society and their guests prior to the inaugural banquet on Friday evening. Mr. Dick Clark, Executive Vice President, and members of the API and APS staff welcomed all who attended. The Society expresses its appreciation to Mr. Clark and API.

INAUGURATION OF DR. WILKINS

President Asa Crow presided at the dinner dance on Saturday evening at which Charles F. Wilkins, Jr., of Russellville was installed as president of the Arkansas Medical Society.

Past President T. E. Townsend of Pine Bluff gave the invocation. President Crow introduced those seated at the head table: James Weber, Secretary of the Society, and his wife Cynthia; John Burge, Chairman of the Council, and his wife Eleanor; Dr. Crow's wife Wanda; Immediate Past President Morriss Henry and his wife Ann; President-elect Charles F. Wilkins, Jr., and his wife Joyce, George K. Mitchell and his wife Martha, and the executive vice president of the Society, C. C. Long, and his wife Wilma.

Special guests in attendance at the banquet were Susan Parker, President-elect of the Arkansas Medical Records Association; Lois Poliquin, President-elect of the Arkansas State Medical Assistants Society; Mrs. Deno Pappas, President of the Arkansas Medical Society Auxiliary; Mrs. Jerry Blaylock, president-elect of the Arkansas Medical Society Auxiliary; Mrs. Paul Cornell, Immediate Past President of the Arkansas Medical Society Auxiliary; John Abrums of Albuquerque, New Mexico, President of the American Society of Internal Medicine, and Dr. Crow's daughter Susan Crow.

President Crow presented the Shuffield Award to Arvil W. Burks, Ed.D., professor and chairman of the Department of Health Education at the University of Central Arkansas. Dr. Burks has been the major advocate encouraging the adoption and updating of the school health curriculum project (Berkeley Model) in many Arkansas school districts.

As Dr. Crow concluded his year as president of the Society, he expressed his thanks to members of the Society, to his partners who had made it possible for him to be out in the State visiting component groups, to the executive staff members C. C. Long, Leah Richmond, Ken LaMastus, and the other members of the staff. The members gave Dr. Crow a standing ovation in appreciation of his outstanding year as president of the Society.

George Mitchell, fellow internist and president of Arkansas Blue Cross-Blue Shield, gave a brief review of the life and work of the Society's president-elect, Charles F. Wilkins, Jr., of Russellville. He expressed appreciation to Dr. Wilkins as one who has done more than his share for the medical profession. He particularly praised Dr. Wilkins for his work as chairman of the Medical Services Review Committee and as a trustee of Arkansas Blue Cross-Blue Shield.

Past Presidents of the Arkansas Medical Society were introduced and stood with Dr. Wilkins for administration of the oath of office. Past presidents in attendance were Morriss Henry, Purcell Smith, Jr., Kemal Kutait, A. E. Andrews, George F. Wynne, W. Payton Kolb, T. E. Townsend, Ben N. Saltzman, Jack W. Kennedy, Ross Fowler, H. W. Thomas, Joseph Norton, C. R. Ellis, Joe Verser.

Asa Crow administered the oath of office to Charles F. Wilkins, Jr. as the 108th president of the Arkansas Medical Society, and presented him with the gavel.

On behalf of the Society, Dr. Wilkins presented a plaque of appreciation to Dr. Crow for his year of service to the State and to the profession.

Members of Dr. Wilkins' family present were his daughter Laura and her husband, Captain William H. Speer, daughter Wanda and her husband Dr. Shelby Hefland, son Charles III, whose wife Barbara was unable to be present, and son Michael and his wife Teresa.

Dr. Wilkins also introduced his long-time colleagues of the Millard-Henry Clinic—Roy Millard and W. E. King. Another long-time colleague, Arnold Henry, was unable to be present.

Dr. Wilkins' inaugural address is printed elsewhere in this issue.

The Betty Fowler group played for dancing during dinner; dancing continued until 11:30 p.m.

REORGANIZATIONAL MEETING OF THE COUNCIL

Following final adjournment of the House of Delegates on Sunday, April 15, the Council held a brief reorganizational meeting. J. Larry Lawson of Paragould was elected chairman and Alfred Kahn, Jr., of Little Rock was re-elected editor of the Journal.

REGISTRATION FIGURES
108th Annual Session

Physicians	375
Medical Students	7
Nurses, technicians, medical assistants, clinic managers, etc.	8
Scientific exhibitors (non-physician exhibitors)	27
Technical Exhibitors	171
Auxiliary	17
Other guests	29
	634
Auxiliary Registration	115

SCIENTIFIC EXHIBITS

The Society expresses its thanks to physicians who displayed exhibits at the annual meeting. Exhibits presented were:

"Disability Evaluation under Social Security"
Mr. Tom South, Disability Determination for Social Security

"Robert Watson History of Medicine Room"
Edwina Walls, Librarian, University of Arkansas Medical Sciences Library

"Circle to Independence"
Mr. George Richardson, Arkansas State Spinal Cord Commission

"Large Bowel Cancer Biology and Control"
Ronald D. Hardin, Chairman of the Arkansas Medical Society Cancer Control Committee, and the American Cancer Society

"Non-Surgical Percutaneous Interventions in Coronary Arterial Diseases"
Bim Sharma, Joe Bissett, John Baker, and Joseph Franciosa of the Department of Cardiology at the University of Arkansas College of Medicine

"Non-Invasive Vascular Studies"
Robert Casali, C. D. Williams, and Tom Hoffman, Vascular Labs of Arkansas

"Incidence of Significant Congenital Heart Defects in Young Children in Arkansas"
Richard I. Readinger, Ernest Kiel, J. B. Norton, Jr., W. T. Dungan, and Mary Jackson, S.N., Pediatric Cardiology Division of Arkansas Children's Hospital

"AMA/GTE TELENET Medical Information Network"
Mr. Paul Harris and Mr. Randall Ort, Pulaski County Medical Society

"Early Detection of Bronchogenic Carcinoma with Sputum Cytology"
Edward Fody, Robert Schaefer, and Eulalie Araoz, CT (ASCP), Department of Pathology of the University of Arkansas College of Medicine

"Ultrastructural Studies on Synchronomous Aortic and Jugular Paragangliomas"
C. N. Sun, Ph.D., and Robert Schaefer, Veterans Administration Medical Center

"A Visual Data Base for Computer Assisted Instruction, Optical Videodisc, Basic Medical Pathology"
Robin R. Jones, Department of Pathology of the University of Arkansas College of Medicine

"Area Health Education Centers"
Roger B. Bost, Director

"Arkansas Genetics Program"
Ms. Becky Butler and Ms. Flo Hawks, Department of Pediatrics, University of Arkansas College of Medicine

"Percutaneous Ultrasound Lithotripsy"
Troy Barnett and Jerry Holton, St. Vincent Infirmary

"Hyperbaric Oxygen Therapy"
Fred J. Svendsen, George Holitik, Ms. Shirley Ward and Ms. Tam Jones

"The Radionuclide Diuretic Renogram in Myelodysplasia"
Teresita L. Angtuaco, Charles M. Boyd, Joanna J. Seibert, and Alex E. Finkbeiner, Imaging Division, Department of Radiology, University of Arkansas College of Medicine

"Hippocrates 'I Will Not Cut for Stone'—Endourology Today"
A. David Hall, J. Malcolm Moore, Charles W. Logan, Johnson J. Baker, James W. Headstream, Urology Associates

"The New Jersey Integrated Knee Replacement System"
R. Barry Sorrells, Michael J. Pappas, Frederick F. Buechel, Little Rock Orthopaedic Clinic

"Porocoat Biological Fixation—Clinical Experience with Biopolar Hemi or Total Hip Arthroplasty"

"Self-Centering Universal Hip—the AML™ Total Hip System with Porocoat"
Jerry Thomas, Peter Dornenburg, Ted Saer, Arkansas Orthopaedic Association

"Chest Masses in Children"
E. S. Golladay, Daniel Mollitt, Janet Hale, and Joanna J. Seibert, Departments of Surgery and Radiology, University of Arkansas College of Medicine and Arkansas Children's Hospital

"Family Acceptance of Home Apnea Monitors"
Debra H. Fiser and Lisa Lyons, R.N., Arkansas Children's Hospital and Department of Pediatrics of the University of Arkansas College of Medicine

"Prophylactic Antibiotics in Pediatric Appendicitis"
Terry Yamauchi, E. S. Golladay, J. A. Also,

W. P. Fiser, D. L. Mollitt, S. Costa

"Do Children Car Seats Effectively Prevent Head Injury?"
John R. Mawk, Department of Neurosurgery, University of Arkansas College of Medicine

"Magnetic Resonance Imaging"
Daniel P. Chisholm and H. Howard Cockrill, Radiology Associates

"CT Assisted Interventional Procedures"
H. R. Shah, E. A. Angtauco, C. M. Body, Division of Nuclear Medicine, Department of Radiology, University of Arkansas College of Medicine

"Intra-Operative Ultrasound: A Window to the Brain"
William M. Chadduck, Department of Neurosurgery, University of Arkansas College of Medicine

"Argon Laser Treatment of Glaucoma"
George T. Schroeder

"Impression Method of Fitting Artificial Eyes"
Mr. Jack Diner, Department of Otolaryngology and Maxillofacial Surgery, University of Arkansas College of Medicine

"Uncommon C.T. Applications—Head and Neck"
Daniel P. Chisholm, Radiology Associates

"Lip Adhesion in Bilateral Cleft Lip"
Robert W. Seibert, Cleft Clinic, Department of Otolaryngology, University of Arkansas College of Medicine

"CIS-Platinum Sensitization to Radiotherapy for Squamous Cell Carcinoma in the Head and Neck"
Bruce Leipzig and Roberto Putzeys

"Le Fort Fractures"
Robert Tirman, T. Koonce, H. Shah, R. Fitzrandolph, Edwin Fontenot

"Small Fenestra Stepedectomy Technique—Reducing Risk and Improving Hearing"
H. A. Ted Bailey, Jr., James J. Pappas, and Sharon S. Graham, M.S., The Ear and Nose-Throat Clinic

"Surgical Management of Obstructive Sleep Apnea and Severe Snoring"
Joe B. Colclasure, the Ear and Nose-Throat Clinic

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY 1984-1985

President	Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801
President-elect	John P. Burge, Post Office Box 788, Lake Village 71653
First Vice President	Charles H. Rodgers, 4202 South University, Little Rock 72204
Second Vice President	Morton C. Wilson, 1500 Dodson, Fort Smith 72903
Third Vice President	Harvey Harmon, 10th and Highland, Blytheville 72315
Secretary	James R. Weber, Post Office Box 188, Jacksonville 72076
Treasurer	James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801
Speaker	Amail Chudy, 1801 Maple, North Little Rock 72114
Vice Speaker	Sybil R. Hart, Post Office Box 312, Blytheville 72316
Journal Editor	Alfred Kahn, Jr., 1300 West Sixth, Little Rock 72201
Delegates to AMA	Joe Verser, Post Office Box 106, Harrisburg 72432
	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603
	A. E. Andrews, Post Office Box 689, Texarkana 75504
Alternates	Richard N. Pearson, 6 Halsted Circle, Rogers 72756
	W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205
	George W. Warren, Post Office Box W, Smackover 71762

EXECUTIVE COMMITTEE OF THE COUNCIL

Chairman of the Council	J. Larry Lawson, #1 Medical Drive, Paragould 72450
President	Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801
President-elect	John P. Burge, Post Office Box 788, Lake Village 71653
Secretary	James R. Weber, Post Office Box 188, Jacksonville 72076
Immediate Past President	Asa A. Crow, #1 Medical Drive, Paragould 72450

MORE CANDID SHOTS FROM THE CONVENTION

















MORE CANDID SHOTS FROM THE CONVENTION

















DR. BURGE IS NAMED PRESIDENT-ELECT







The House of Delegates elected John P. Burge of Lake Village to the position of president-elect of the Arkansas Medical Society at the meeting on April 15, 1984. Dr. Burge is shown as he accepts the position.

COUNCILORS

District	Term Expires 1985	Term Expires 1986	Counties in District	
1.	*Merrill J. Osborne 1533 North 10th Blytheville 72315	J. Larry Lawson #1 Medical Drive Paragould 72450	Clay, Craighead, Crittenden, Fulton, Greene, Lawrence, Mississippi, Poinsett, Randolph, and Sharp	
2.	Jim E. Lytle P. O. Box 2116 Batesville 72501	*John E. Bell 1300 South Main Searcy 72143	Cleburne, Conway, Faulkner, Independence, Izard, Jackson, Stone, and White	
3.	John Hestir P. O. Drawer 512 DeWitt 72042	*L. J. P. Bell 626 Poplar Helena 72342	Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis, and Woodruff	
4.	*Lloyd G. Langston 1408 West 43rd Pine Bluff 71603	Paul A. Wallick 906 Roberts Drive Monticello 71655	Ashley, Chicot, Desha, Drew, Jefferson, and Lincoln	
5.	*George Warren P. O. Box W Smackover 71762	Cal R. Sanders P. O. Box 757 Camden 71701	Bradley, Calhoun, Cleveland, Columbia, Dallas, Ouachita, and Union	
6.	*F. E. Joyce P. O. Box 2763 Texarkana 75504	James D. Armstrong P. O. Box 637 Ashdown 71822	Hempstead, Howard, Lafayette, Little River, Miller, Nevada, Pike, Polk, and Sevier	
7.	Edgar K. Clardy 604 Central Tower Hot Springs 71901	*Ronald J. Bracken 505 West Grand Hot Springs 71901	Clark, Garland, Grant, Hot Spring, Montgomery, and Saline	
8.	*W. Ray Jouett (1985) 750 Medical Towers Bldg. Little Rock 72205 Charles Logan (1985) 500 South University Little Rock 72205	William N. Jones (1986) 500 S. University Little Rock 72205	Harold Purdy (1986) 6924 Geyer Springs Road Little Rock 72209 Frank E. Morgan (1986) 410 Pershing Blvd. North Little Rock 72114	Pulaski
9.	*Richard N. Pearson 6 Halsted Circle Rogers 72756	Robert H. Langston 520 North Spring Harrison 72601	Baxter, Benton, Boone, Carroll, Madison, Marion, Newton, Searcy, Van Buren, and Washington	
10.	W. P. Phillips P. O. Box 3507 Fort Smith 72913	*Ken Lilly 1120 Lexington Fort Smith 72901	Crawford, Franklin, Johnson, Logan, Perry, Pope, Scott, Sebastian, and Yell	

*Senior Councilor

COMMITTEES — ARKANSAS MEDICAL SOCIETY — 1984-85

COMMITTEES APPOINTED BY SOCIETY PRESIDENT

	Term Expires
COMMITTEE ON CANCER CONTROL	
Jean C. Gladden, P. O. Box 1118, Harrison 72601	1985
James Bledsoe, 6 Halsted Circle, Rogers 72756 — *CHAIRMAN*	1985
Jerry Morgan, Route 1, Box 21-D, Stuttgart 72160	1985
Peyton E. Rice, 2000 Fendley Drive, North Little Rock 72114	1985
John K. Sigler, 923 Lexington, Fort Smith 72901	1985
Joe B. Crumpler, Jr., 3105 West Main Place, Russellville 72801	1987
Richard Babaian, 4301 West Markham, Slot 540, Little Rock 72201	1987
Ronald D. Hardin, 960 Medical Towers Building, Little Rock 72205	1987
COMMITTEE ON MEDICAL LEGISLATION	
Robert F. McCrary, 505 West Grand, Hot Springs 71901	1985
William F. Dudding, 3104 Executive Park, Fort Smith 72903	1985
Ralph F. Joseph, Highway 25 West, Walnut Ridge 72476	1985
Jerry Morgan, Route I, Box 21-D, Stuttgart 72160	1985
Morriss M. Henry, P. O. Box 1727, Fayetteville 72702	1986
Charles H. Rodgers, 4202 South University, Little Rock 72204	1986
James R. Weber, P. O. Box 188, Jacksonville 72076 — *CHAIRMAN*	1987
Joe Verser, P. O. Box 106, Harrisburg 72432	1987
Richard K. Lovell, 510 Hilltop Drive, Russellville 72801	1987
Marvin Leibovich, 9600 West 12th, Little Rock 72205	1987
Don Howard, 110 North Clifton, Fordyce 71742	1987
Kelly Meyer, P. O. Box 1597, Russellville 72801	1987
James L. Maupin, P. O. Box 337, Dardanelle 72834	1987
Ex-Officio Members:	
Mrs. James R. Weber, 2712 Gray Fox Lane, Jacksonville 72076	
Mrs. Robert R. Gullett, 28 Longmeadow, Pine Bluff 71603 (Auxiliary Legislative Co-Chairmen)	
SUB-COMMITTEE ON NATIONAL LEGISLATION	
W. P. (Pat) Phillips, P. O. Box 3507, Fort Smith 72913	1985
Kelly Meyer, P. O. Box 1597, Russellville 72801	1985
Charles H. Rodgers, 4202 South University, Little Rock 72204	1985
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205	1986
George W. Warren, P. O. Box "W", Smackover 71762	1986
Rhys A. Williams, P. O. Box 1118, Harrison 72602	1987
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	1987
Asa A. Crow, #1 Medical Drive, Paragould 72450 — *CHAIRMAN*	1987
COMMITTEE ON PUBLIC HEALTH	
Ben N. Saltzman, 4815 West Markham, Little Rock 72205	1985
Rex Ramsay, P. O. Box 300, Bauxite 72011	1985
R. Steve Venable, 6917 Geyer Springs Road, Little Rock 72209	1985
Don Howard, 110 Clifton, Fordyce 71742 — *CHAIRMAN*	1986
William C. Whaley, Jr., 205 East Church, Warren 71671	1987
Wilbur G. Lawson, 207 East Dickson, Fayetteville 72701	1987
John A. Hall, P. O. Box 310, Clinton 72031	1987
SUB-COMMITTEE ON MATERNAL AND CHILD WELFARE	
E. A. Shaneyfelt, P. O. Box 630, Manila 72442	1985
Rex Ramsay, P. O. Box 300, Bauxite 72011	1985
Lance D. Whaley, 671 Oakland, Helena 72342	1985
W. Wayne Workman, 527 North 6th, Blytheville 72315	1985
Robert H. Fiser, Jr., 1721 Maryland, Little Rock 72202 — *CHAIRMAN*	1987
Calvin Bracy, 1301 West 43rd, Pine Bluff 71603	1987
Rufus Thrower, Jr., 1306 Wright Avenue, Little Rock 72206	1987
COMMITTEE ON CONTINUING MEDICAL EDUCATION	
John M. Hestir, P. O. Drawer 512, DeWitt 72042 — *CHAIRMAN* FP	1985
David Barclay, 500 South University, Little Rock 72205 OS (OBGYN)	1985
Thomas A. Bruce, 4301 West Markham, Little Rock 72201 UACM	1986
J. Larry Lawson, #1 Medical Drive, Paragould 72450 AC, ACS	1986
Allan S. Pirnique, 714 West Faulkner, El Dorado 71730 ACP	1986
Leslie F. Anderson, 1310 North Center, Lonoke 72086 AAFP	1986

		Term Expires
Sybil Hart, P. O. Box 312, Blytheville 72315	OS (PATH)	1987
James G. Burgess, P. O. Box 1647, Russellville 72801	OS (RAD)	1987
COMMITTEE ON HOSPITALS		
Robert B. Benafield, 601 Gaines, Little Rock 72203 — *CHAIRMAN*		1985
G. Max Thorn, St. Vincent Infirmary, Little Rock 72201		1985
Rhys A. Williams, P. O. Box 1118, Harrison 72601		1985
Ralph G. Kramer, 603 Lexington, Fort Smith 72901		1985
Richard O. Martin, P. O. Box 339, Paragould 72450		1986
Gerald A. Stolz, Jr., P. O. Box 925, Russellville 72801		1987
Robert E. Elliott, 1300 South Main, Searcy 72143		1987
Don Howard, 110 North Clifton, Fordyce 71742		1987
COMMITTEE ON PUBLIC RELATIONS		
W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205		1984
T. E. Townsend, 1420 West 43rd, Pine Bluff 71603		1985
Raymond V. Biondo, P. O. Box 921, North Little Rock 72115		1985
Charles Logan, 500 South University, Little Rock 72205		1985
Rufus Thrower, Jr., 1306 Wright Avenue, Little Rock 72206		1985
Milton D. Deneke, P. O. Box 687, West Memphis 72301 — *CHAIRMAN*		1986
Ronald Bracken, 505 West Grand, Hot Springs 71901		1986
A. C. Bradford, P. O. Box 3528, Fort Smith 72913		1987
Eugene F. Still, II, 1500 Dodson, Fort Smith 72901		1987
William H. Riley, 4202 South University, Little Rock 72204		1987
J. E. McDonald, 461 East Township, Fayetteville 72701		1987
Ex-Officio Members:		
Mrs. Deno Pappas, 125 Trivista, Hot Springs 71901 (Auxiliary President)		
Mrs. Gordon P. Oates, 485 Valley Club Drive, Little Rock 72212 (Auxiliary Publicity Committee Chairman)		
SUB-COMMITTEE ON LIAISON WITH AUXILIARY		
Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801 — *CHAIRMAN*		1985
Deno P. Pappas, 101 Whittington, Hot Springs 71901		1985
Asa Crow, #1 Medical Drive, Paragould 72450		1986
Jerry D. Blaylock, 901 South Church, Jonesboro 72401		1986
Milton D. Deneke, P. O. Box 687, West Memphis 72301		1987
J. Larry Lawson, #1 Medical Drive, Paragould 72450		1987
SUB-COMMITTEE ON STATE HEALTH AND MEDICAL RESOURCES FOR CIVIL DEFENSE		
Glenn V. Dalrymple, 1100 Medical Towers Building, Little Rock 72205		1985
Charles H. Rodgers, 4202 South University, Little Rock 72204		1985
Joe H. Stallings, 417 East Matthews, Jonesboro 72401		1986
Alvin Strauss, Jr., 1026 Donaghey Building, Little Rock 72201		1987
Marvin Leibovich, 9600 West 12th, Little Rock 72205 — *CHAIRMAN*		1987
SUB-COMMITTEE ON LIAISON WITH VOCATIONAL REHABILITATION		
Karlton H. Kemp, 408 Hazel, Texarkana 75502		1985
Ramon Lopez, 1902 McLain, Newport 72112		1985
Robert D. Miller, Jr., 616 Elm Street, Helena 72342 — *CHAIRMAN*		1986
T. E. Townsend, 1420 West 43rd, Pine Bluff 71603		1986
W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205		1987
Henrik Madsen, II, 225 Linden, Hot Springs 71901		1987
ANNUAL SESSION COMMITTEE		
Richard O. Martin, P. O. Box 339, Paragould 72450		1985
Ken Lilly, 1120 Lexington, Fort Smith 72901		1985
J. Larry Lawson, #1 Medical Drive, Paragould 72450		1985
Robert Casali, 200 Medical Towers Building, Little Rock 72205		1985
James L. Gardner, 125 Greenwood, Hot Springs 71901		1986
Thomas A. Bruce, 4301 West Markham, Little Rock 72201		1987
Kelsy Caplinger, 11215 Hermitage, Little Rock 72211		1987
Ronald J. Bracken, 505 West Grand, Hot Springs 71901 — *CHAIRMAN*		1987
Charles H. Rodgers, 4202 South University, Little Rock 72204		1987
Ex-Officio Members:		
Mrs. Cecil Cupp, III, 815 Quapaw, Hot Springs 71901		
Mrs. Dan Rainer, 1008 Higdon, Hot Springs 71901 (Convention Co-Chairmen)		
Mrs. Deno Pappas, 125 Trivista, Hot Springs 71901		
COMMITTEE ON INSURANCE		
Guy Farris, 6213 Lee Avenue, Little Rock 72205		1985
James F. Thomas, Southgate Place, Jonesboro 72401		1985

	Term Expires
Peter Irwin, 1500 Dodson, Fort Smith 72901	1985
Rhys A. Williams, P. O. Box 1118, Harrison 72601	1985
John Crenshaw, 4201 Mulberry, Pine Bluff 71603	1987
James L. Gardner, 125 Greenwood, Hot Springs 71901	1987
Eugene F. Still, II, 1500 Dodson, Fort Smith 72901 — *CHAIRMAN*	1987
Jack L. Blackshear, 650 Medical Towers Building, Little Rock 72205	1987
Mr. Ben Jensen, Holt-Krock Clinic, 1500 Dodson, Fort Smith 72901 (Advisory)	
COMMITTEE ON MEDICINE AND RELIGION	
John Miller, P. O. Box 851, Hampton 71744	1985
James O. Pennington, P. O. Box 68, Ola 72853	1985
Ronald D. Hardin, 960 Medical Towers Building, Little Rock 72205	1985
Walter H. O'Neal, 9601 Interstate 630, Little Rock 72201 — *CHAIRMAN*	1986
C. R. Ellis, 1004 South Main, Malvern 72104	1987
Randolph Murphy, 708 West Second, Little Rock 72212	1987
George Schroeder, 260 Doctors Park Building, Little Rock 72205	1987
Milton D. Deneke, P. O. Box 687, West Memphis 72301	1987
COMMITTEE ON AGING	
Morton C. Wilson, 1500 Dodson, Fort Smith 72901	1985
Frances Rothert, Benedictine Manor, Hot Springs 71901	1985
Tom Eans, 1709 West Main, Heber Springs 72543	1985
Henry V. Kirby, 825 North Spring, Harrison 72601	1986
E. Clinton Texter, 4301 West Markham, Slot 567, Little Rock 72201	1987
Carlos A. Araoz, #1 St. Vincent Circle, Suite 220, Little Rock 72205	1987
Joe Norton, 8570 Cantrell, Little Rock 72207	1987
COMMITTEE ON MENTAL HEALTH	
David D. Fried, Route 3, Box 194, Mena 71953	1985
Henry H. Good, #1 St. Vincent Circle, Suite #340, Little Rock 72205	1985
George Regnier, 500 South University, Little Rock 72205	1985
Aubrey C. Smith, #1 St. Vincent Circle, #260, Little Rock 72205 — *CHAIRMAN*	1987
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205	1987
William Joe James, P. O. Box 1019, Pine Bluff 71613	1987
David Gibbons, P. O. Box 136, Ozark 72949	1987

COMMITTEES APPOINTED BY COUNCIL

	Term Expires
COMMITTEE ON POSITION PAPERS	
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801 — *CHAIRMAN*	1984
Neil Sims, 4301 West Markham, Little Rock 72201	1984
George W. Warren, P. O. Box W, Smackover 71762	1984
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205	1984
James R. Weber, P. O. Box 188, Jacksonville 72076	1984
Thomas A. Bruce, 4301 West Markham, Little Rock 72201	1984
Carl J. Raque, 500 South University, Little Rock 72205	1985
David Busby, 100 South 14th, Fort Smith 72901	1985
T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1985
Richard N. Pearson, 6 Halsted Circle, Rogers 72756	1985
Willis Stevens, 460 West Oak, El Dorado 71730	1985
Lloyd Langston, 1408 West 43rd, Pine Bluff 71603	1986
Paul Cornell, 500 South University, Little Rock 72205	1986
Kemal Kutait, 1120 Lexington, Fort Smith 72901	1986
BUDGET COMMITTEE	Dec. 31
John M. Hestir, P. O. Drawer 512, DeWitt 72042 — *CHAIRMAN*	1984
Jim E. Lytle, P. O. Box 2116, Batesville 72501	1985
F. E. Joyce, P. O. Box 2763, Texarkana 75504	1986
Lloyd Langston, 1408 West 43rd, Pine Bluff 71603	1987
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	Automatic as Treasurer
COMMITTEE ON CONSTITUTIONAL REVISION	
A. S. Koenig, Jr., 923 Lexington, Fort Smith 72901 — *CHAIRMAN*	
J. Warren Murry, P. O. Drawer A, Fayetteville 72702	
Nathan L. Poff, P. O. Box 1111, Heber Springs 72543	
MEDICAL SCHOOL COMMITTEE	
James L. Gardner, 125 Greenwood, Hot Springs 71901 — *CHAIRMAN*	
Kemal Kutait, 1120 Lexington, Fort Smith 72901	
Boyce West, P. O. Box 220, Clarksville 72830	
Max G. Cheney, P. O. Box 725, Mountain Home 72653	
R. Jerry Mann, 6924 Geyer Springs Road, Little Rock 72209	

LIAISON COMMITTEE WITH
STATE WELFARE DEPARTMENT
(Composed of Executive Committee)
AD HOC COMMITTEE TO EXECUTIVE
COMMITTEE ON LIAISON WITH STATE
DEPARTMENTS OF HEALTH AND
HUMAN SERVICES

Larry D. Wright, P. O. Box 1000,
Rogers 72756 — *CHAIRMAN*
Milton D. Deneke, P. O. Box 687,
West Memphis 72301
George W. Warren, P. O. Box W,
Smackover 71762
Michael N. Moody, P. O. Box 829,
Salem 72576

LONG RANGE PLANNING COMMITTEE

Lloyd Langston, 1408 West 43rd,
Pine Bluff 71603 — *CHAIRMAN*
John E. Bell, 1300 South Main,
Searcy 72143
James R. Weber, P. O. Box 188,
Jacksonville 72076
Mahlon O. Maris, P. O. Box 1597,
Harrison 72601
James M. Kolb, Jr., 305 Skyline Drive,
Russellville 72801

PHYSICIAN-NURSE JOINT PRACTICE COMMITTEE

Jerry Holton, 500 South University,
Little Rock 72205
A. T. Gillespie, 500 South University,
Little Rock 72205
Charles W. Logan, 500 South University,
Little Rock 72205
Kemal Kutait, 1120 Lexington,
Fort Smith 72901
Charles F. Wilkins, 3105 West Main Place,
Russellville 72801 — *CHAIRMAN*

AD HOC COMMITTEE ON JOURNAL ADVERTISING

Raymond A. Irwin, Jr., 1220 West 42nd,
Pine Bluff 71603 — *CHAIRMAN*
W. Payton Kolb, 230 Medical Towers Building,
Little Rock 72205
F. E. Joyce, P. O. Box 2763,
Texarkana 75504

COST EFFECTIVENESS COMMITTEE

Purcell Smith, P. O. Box 5675,
Little Rock 72215 — *CHAIRMAN*
Charles F. Wilkins, Jr., 3105 West Main Place,
Russellville 72801
Cal R. Sanders, P. O. Box 757,
Camden 71701
William H. Riley, 4202 South University,
Little Rock 72204
Milton Deneke, P. O. Box 687,
West Memphis 72301
John Crenshaw, 4201 Mulberry,
Pine Bluff 71603
Morriss Henry, P. O. Box 1727,
Fayetteville 72702

IMPAIRED PHYSICIANS COMMITTEE

Lee B. Parker, Jr., 241 West Spring,
Fayetteville 72701
Aubrey C. Smith, #1 St. Vincent Circle, Suite 260,
Little Rock 72205 — *CHAIRMAN*
Glen F. Baker, 4301 West Markham,
Little Rock 72201
B. P. Raney, 403 East Matthews,
Jonesboro 72401
W. Ray Jouett, 750 Medical Towers Building,
Little Rock 72205
J. L. Martindale, 302 West South,
Benton 72015

COUNCIL APPOINTED BOARDS AND COMMISSIONS

ARKANSAS MEDICAL SOCIETY, PENSION PLAN TRUSTEES	Term Expires April
Kemal Kutait, 1120 Lexington, Fort Smith 72901 — *CHAIRMAN*	1985
James R. Weber, P. O. Box 188, Jacksonville 72076	1986
Charles Logan, 500 South University, Little Rock 72205	1987
Rhys A. Williams, P. O. Box 1118, Harrison 72601	1988
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	Automatic as Treasurer
Ex-Officio Member: C. C. Long, P. O. Box 1208, Fort Smith 72902	

MEDICAL EDUCATION FOUNDATION FOR ARKANSAS (M.E.F.F.A.)	Term Expires August
W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205	1985
Amail Chudy, 1801 Maple, North Little Rock 72114 — *Vice President*	1986
Jean Gladden, P. O. Box 1118, Harrison 72601 — *Secretary*	1987
Martin Eisele, 101 Whittington, Hot Springs 71901 — *President*	1988
EX-OFFICIO (with voting power)	
Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801 (President, AMS)	
John P. Burge, P. O. Box 788, Lake Village 71653 (President-Elect, AMS)	
Asa A. Crow, #1 Medical Drive, Paragould 72450 (Immediate Past President, AMS)	
Thomas A. Bruce, 4301 West Markham, Little Rock 72201 (Dean, University of Arkansas College of Medicine)	

ARKANSAS STATE ARBITRATION COMMISSION

(Society Representatives)	Term Expires April
District	
1 Milton D. Deneke, P. O. Box 687, West Memphis 72301	1987

		Term Expires
2	Kenneth Meacham, 1300 South Main, Searcy 72143	1986
3	Dwight Gray, 110 West Chestnut, Marianna 72360	1986
4	Banks Blackwell, P. O. Box 1406, Pine Bluff 71613	1987
5	James Guthrie, P. O. Box 757, Camden 71701	1989
6	Joe D. King, P. O. Box 549, Nashville 71852	1985
7	Thomas M. Durham, 505 West Grand, Hot Springs 71901	1987
8	H. Austin Grimes, P. O. Box 5270, Little Rock 72215 — *CHAIRMAN*	1987
9	John W. Vinzant, 22 East Spring, Fayetteville 72701	1984
10	James Maupin, P. O. Box 337, Dardanelle 72834	1985

ARKANSAS MEDICAL SOCIETY POLITICAL ACTION COMMITTEE

John M. Hestir, P. O. Drawer 512, DeWitt 72042 — *CHAIRMAN*
Charles H. Rodgers, 4202 South University, Little Rock 72204 — *TREASURER*
John Crenshaw, 4201 Mulberry, Pine Bluff 71603
Robert Miller, 616 Elm, Helena 72342
Ken Lilly, 1120 Lexington, Fort Smith 72901
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801
A. Samuel Koenig, III, 923 Lexington, Fort Smith 72901
Milton D. Deneke, P. O. Box 687, West Memphis 72301
Roger Cagle, #1 Medical Drive, Paragould 72450
Richard Martin, P. O. Box 339, Paragould 72450
John Giller, 705 West Faulkner, El Dorado 71730
Paul Meredith, P. O. Box 1409, Texarkana 75504
Mrs. Ramon Lopez, 2008 Fairground Road, Newport 72112
Mrs. J. E. McDonald, 1143 West Lakeridge, Fayetteville 72701
Mrs. Herbert Taylor, 211 Tournament, West Memphis 72301
Mrs. C. Lynn Harris, 1516 Wilson Drive, Hope 71801

ARKANSAS MEDICAL SOCIETY LEGISLATIVE FUND

James R. Weber, P. O. Box 188, Jacksonville 72076
Asa A. Crow, #1 Medical Drive, Paragould 72450
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205
Ex-Officio Member:
Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801

COUNCIL AD HOC COMMITTEES

INFORMED CONSENT COMMITTEE

J. Larry Lawson, #1 Medical Drive, Paragould 72450 — *CHAIRMAN*
John Broadwater, 1500 Dodson, Fort Smith 72901
James R. Weber, P. O. Box 188, Jacksonville 72076
W. P. Phillips, P. O. Box 3507, Fort Smith 72913
Bill Tranum, 500 South University, Suite 401, Little Rock 72205
S. Killeen DesLauriers, 880 Medical Towers Building, Little Rock 72205
Robert H. Janes, 1500 Dodson, Fort Smith 72901

DR. SHUFFIELD MEMORIAL COMMITTEE

Harold Hutson, 110 Doctors Park Building, Little Rock 72205 — *CHAIRMAN*
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205
Joe Verser, P. O. Box 106, Harrisburg 72432

RESIDENT PHYSICIAN COMMITTEE

Warren Boop, 4301 West Markham, Little Rock 72201 — *CHAIRMAN*
Amail Chudy, 1801 Maple, North Little Rock 72114
James Cornett, 5326 West Markham, Little Rock 72205

MEDICAL SERVICES REVIEW COMMITTEE

Term Expires April 30	Committee Members (Name and Address)	Specialty Represented
1987	R. Jerry Mann, 6924 Geyer Springs Road, Little Rock 72209	Fam. Pr.
1985	Ken Lilly, 1120 Lexington, Fort Smith 72901	Fam. Pr.
1985	Robert Etherington, 41 Kingshighway, Eureka Springs 72632	Fam. Pr.
1987	David Crittenden, 100-A East Poplar, Fayetteville 72701	Int. Med.

Term Expires April 30	Committee Members (Name and Address)	Specialty Represented
1985	John Crenshaw, 4201 Mulberry, Pine Bluff 71603	Int. Med.
1987	James A. Simpson, 1300 South Main, Searcy 72143	Surgery
1986	Glenn P. Schoettle, 308 South Rhodes, West Memphis 72301	Surgery
1985	George V. Roberson, 1801 West 40th, Pine Bluff 71603	Surgery
1986	Vida H. Gordon, 9900 Treasure Hill, Little Rock 72205	Allergy
1985	Jim Porter, P. O. Box D, Benton 72015	Anes.
1986	William W. Galloway, 1602 West Main, Russellville 72801	Derm.
1986	Dwayne L. Ruggles, 520 West 26th, North Little Rock 72114	Oto.
1986	Mitchell Singleton, P. O. Box 908, Fayetteville 72702	Oph.
1987	A. Tharp Gillespie, 500 South University, Little Rock 72205	Ob-Gyn
1985	Robert Watson, 30 Edgehill, Little Rock 72207	Neurosurgery
1985	Warren M. Douglas, 260 Medical Towers Bldg., Little Rock 72205	Psychiatry
1987	John Trieschmann, P. O. Box 2458, Hot Springs 71913	Pediatrics
1986	A. E. Andrews, P. O. Box 689, Texarkana 75504	Radiology
1987	Frederick E. Joyce, P. O. Box 2763, Texarkana 75504	Pathology
1987	Peter Dornenburg, #1 St. Vincent Cir., #210, Little Rock 72205	Orthopedics
1985	Hal R. Black, Jr., 200 Doctors Park Bldg., Little Rock 72205	Urology

Term Expires April 30	Committee Members (Name and Address)	Specialty Represented
—	Charles R. Rodgers, 4202 South University, Little Rock 72209	(Chairman)
—	Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801	(President)
—	John P. Burge, P. O. Box 788, Lake Village 71653	(President-elect)
—	James R. Weber, P. O. Box 188, Jacksonville 72076	(Secretary)
—	J. Larry Lawson, #1 Medical Drive, Paragould 72450	(Council Chairman)
—	Asa A. Crow, #1 Medical Drive, Paragould 72450	(Immediate Past President)

SUB-COMMITTEE OF SUB-SPECIALTIES

(Representatives on call to meet with Committee as needed when claims in specialty field are considered)

Term Expires April 30	Sub-Committee Representative (Name and Address)	Sub-Specialty Represented
	Carl L. Williams, 522 South 16th, Fort Smith 72901	Thoracic Surgery
	Thomas J. Smith, 409 North University, Little Rock 72205	Gastroenterology
	Thomas H. Allen, 413 North University, Little Rock 72205	Plastic Surgery
	John C. Schultz, 10001 Lile Drive, Little Rock 72205	Pulmonary Dis.
	Kelsy J. Caplinger, III, 11215 Hermitage Road, Ste. 104, Little Rock 72211	Pediatric Allergy
	G. Doyne Williams, #1 St. Vincent Circle, Ste. 330, Little Rock 72205	Cardiovascular Surgery
	Robert F. McCrary, Jr., 236 Central, Hot Springs 71901	Nephrology
	Robbie R. Atkinson, D.D.S., 1801 West 40th, 2-A, Pine Bluff 71601	Oral Surgery

1984 OFFICERS — COUNTY MEDICAL SOCIETIES — ARKANSAS MEDICAL SOCIETY

ARKANSAS — Pres.—Gerald L. Guyer, Route 1, Box 21-D, Stuttgart 72160
Secy.—Gerald L. Guyer, Route 1, Box 21-D, Stuttgart 72160

ASHLEY — Pres.—Donald L. Toon, 315 North Alabama, Crossett 71635
Secy.—Ben Walsh, Post Office Box 904, Crossett 71635

BAXTER — Pres.—Robert L. Baker, #10 Medical Plaza, Mountain Home 72653
Secy.—Arthur L. Beard, 126 West 6th, Mountain Home 72653
Asst. Secy.—Julia Short, 126 West Sixth, Mountain Home 72653

BENTON — Pres.—Eugene H. Ball, 1406 West Walnut, Rogers 72756
Secy.—James R. Knapp, Rogers Memorial Hospital, Rogers 72756

BOONE — Pres.—Richard Kuharich, 811 South Pine, Harrison 72601
Secy.—Thomas Leslie, Post Office Box 1597, Harrison 72601

BRADLEY — Pres.—William C. Whaley, 205 East Church, Warren 71671
Secy.—George F. Wynne, 113 West Cypress, Warren 71671

CARROLL — Pres.—Ralph E. Williams, 302 Rice Street, Berryville 72616
Secy.—Harold Stensby, 207 Carter, Berryville 72616

CHICOT — Pres.—Major E. Smith, Post Office Box 310, Dermott 71638
Secy.—Tom Tvedten, Post Office Box 512A, Lake Village 71653

CLARK	Pres.—N. R. Ritter, 3004 West Pine, Arkadelphia 71923
	Secy.—James D. Russell, 3004 West Pine, Arkadelphia 71923
CLEBURNE	Pres.—W. J. Ashabranner, Post Office Box 1111, Heber Springs 72543
	Secy.—Nita B. Oglesby, 421 South 7th, Heber Springs 72543
COLUMBIA	Pres.—John E. Alexander, 707 North Washington, Magnolia 71753
	Secy.—Robert W. Hunter, Jr., Post Office Box 1883, Magnolia 71753
CONWAY	Pres.—Thomas L. Buchanan, 200 Moose, Morrilton 72110
	Secy.—Michael Koone, #2 Hospital Drive, Morrilton 72110
CRAIGHEAD-POINSETT	Pres.—Joe T. Wilson, 411 East Matthews, Jonesboro 72401
	Secy.—Glenn Sears, 924 South Main, Jonesboro 72401
CRAWFORD	Pres.—A. L. Travis, Post Office Box 1327, Van Buren 72956
	Secy.—M. C. Edds, 1103 Chestnut, Van Buren 72956
CRITTENDEN	Pres.—H. Wade Westbrook, 228 Tyler, West Memphis 72301
	Secy.—Keith B. Kennedy, 316 Tyler, West Memphis 72301
CROSS	Pres.—Robert D. Bethell, Post Office Box 158, Wynne 72396
	Secy.—Vance J. Crain, Post Office Box 158, Wynne 72396
DALLAS	Pres.—John H. Delamore, Post Office Box 351, Fordyce 71742
	Secy.—Hugh A. Nutt, 110 North Clifton, Fordyce 71742
DESHA	Pres.—Guy U. Robinson, 207 South Elm, Dumas 71639
	Secy.—Howard R. Harris, 207 South Elm, Dumas 71639
DREW	Pres.—Harold F. Wilson, Post Office Box 660, Monticello 71655
	Secy.—
	Asst. Secy.—Betty Evans, Post Office Box 538, Monticello 71655
FAULKNER	Pres.—Bob G. Banister, 923 Parkway, Conway 72032
	Secy.—Bob G. Banister, 923 Parkway, Conway 72032
FRANKLIN	Pres.—Rebecca Ewing, Highway 23 North, Ozark 72949
	Secy.—Thomas C. Jefferson, Post Office Box 1057, Ozark 72949
GARLAND	Pres.—M. R. Springer, 911 West Grand, Hot Springs 71913
	Secy.—J. Richard Gardial, 125 Greenwood, Hot Springs 71901
	Asst. Secy.—Mary Payne, 911 West Grand, Hot Springs 71913
GRANT	Pres.—Clyde D. Paulk, Post Office Box 307, Sheridan 72150
	Secy.—Clyde D. Paulk, Post Office Box 307, Sheridan 72150
GREENE-CLAY	Pres.—Robert B. White, #1 Medical Drive, Paragould 72450
	Secy.—Roger Cagle, #1 Medical Drive, Paragould 72450
HEMPSTEAD	Pres.—Asa M. Warmack, Post Office Box 687, Hope 71801
	Secy.—Johnny W. Jones, 405 West 16th, Hope 71801
HOT SPRING	Pres.—Michael G. Justus, 1002 Schneider Drive, Malvern 72104
	Secy.—Bruce Burton, 1002 Schneider Drive, Malvern 72104
HOWARD-PIKE	Pres.—Joe D. King, Post Office Box 549, Nashville 71852
	Secy.—Samuel W. Peebles, 120 West Sypert, Nashville 71852
INDEPENDENCE	Pres.—James D. Allen, 501 Virginia Drive, Batesville 72501
	Secy.—Russell P. Webster, Post Office Box 2116, Batesville 72503
JACKSON	Pres.—John D. Ashley, 2000 McLain, Newport 72112
	Secy.—M. A. Chauhan, Post Office Box 605, Newport 72112
JEFFERSON	Pres.—John Crenshaw, 4201 Mulberry, Pine Bluff 71603
	Secy.—Bryan L. Burke, Jr., 1420 West 43rd, Pine Bluff 71603
	Exec. Secy.—Maggi Wadsworth, 1515 West 42nd, Pine Bluff 71603
JOHNSON	Pres.—Jack T. Patterson, Post Office Box 668, Clarksville 72830
	Secy.—Robert E. Fraser, Post Office Box 668, Clarksville 72830
LAFAYETTE	Pres.—Craig E. Ditsch, Post Office Box 276, Stamps 71860
	Secy.—Craig E. Ditsch, Post Office Box 276, Stamps 71860
LAWRENCE	Pres.—Ted S. Lancaster, Post Office Box 719, Walnut Ridge 72476
	Secy.—J. B. Elders, Post Office Box 595, Walnut Ridge 72476
LEE	Pres.—Leon Waddy, 530 West Atkins, Marianna 72360
	Secy.—E. C. Fields, 77 West Main, Marianna 72360
LITTLE RIVER	Pres.—James D. Armstrong, Post Office Box 637, Ashdown 71822
	Secy.—John A. Gillean, Post Office Box 818, Ashdown 71822
LOGAN	Pres.—John R. Williams, 114 West 4th, Booneville 72927
	Secy.—Sanford E. Hutson, III, Post Office Box 188, Paris 72855
LONOKE	Pres.—Joe A. Abrams, Post Office Box 993, Cabot 72023
	Secy.—Byron E. Holmes, 305 West Front, Lonoke 72086

MILLER	Pres.—Arlis W. Loe, Post Office Box 1409, Texarkana 75504 Secy.—Roy L. Deskin, 300 East Sixth, Texarkana 75502 Exec. Secy.—Arlene Rushan, 1406 College Drive, Suite 1, Texarkana 75503
MISSISSIPPI	Pres.—Clint G. Melton, 10th and Highland, Blytheville 72315 Secy.—Eldon Fairley, Post Office Box 68, Osceola 72370
MONROE	Pres.—W. L. Walker, 114 South New Orleans, Brinkley 72021 Secy.—N. C. David, Jr., 108 West Ash, Brinkley 72021
NEVADA	Pres.—Richard P. Portis, 301 Hale Avenue, Prescott 71857 Secy.—Michael C. Young, 301 Hale Avenue, Prescott 71857
OUACHITA	Pres.—Danny A. Martin, 416 Hospital Drive, S.W., Camden 71701 Secy.—L. V. Ozment, Post Office Box 757, Camden 71701
PHILLIPS	Pres.—Alfred A. Berger, 801 Perry, Helena 72342 Secy.—L. J. Pat Bell, 626 Poplar, Helena 72342
POLK	Pres.—Michael H. Baldwin, Wilhelmina Medical Center, Mena 71953 Secy.—David D. Fried, Route 3, Box 194, Mena 71953
POPE	Pres.—Dennis W. Berner, 3105 West Main Place, Russellville 72801 Secy.—J. Mark Myers, 3105 West Main Place, Russellville 72801
PULASKI	Pres.—Harold D. Purdy, 6924 Geyer Springs Road, Little Rock 72209 Secy.—David L. Barclay, 500 South University, Little Rock 72205 Exec. Secy.—Paul Harris, 500 South University, #311, Little Rock 72205
RANDOLPH	Pres.—W. W. Scott, Post Office Box 466, Pocahontas 72455 Secy.—Albert L. Baltz, Route 5, Doctors Medical Building, Pocahontas 72455
SALINE	Pres.—Robert Ashby, 815 North East, Benton 72015 Secy.—C. Ted Hood, Post Office Box 483, Benton 72015 Asst. Secy.—Carla Hart, Northeast at McNeil, Benton 72015
SCOTT	Pres.—S. A. Ahmed, Post Office Box 547, Waldron 72958 Secy.—Mariann Barr
SEBASTIAN	Pres.—Annette Landrum, 100 South 14th, Fort Smith 72901 Secy.—Gene Girkin, 923 Lexington, Fort Smith 72901 Exec. Secy.—Gail Fellinger, 1331 South 46th, Apt. 19, Fort Smith 72903
SEVIER	Pres.—Kevin R. Carlson, North 4th and Heynecker, DeQueen 71832 Secy.—David E. Stearns, Highway 70 West, DeQueen 71832 Exec. Secy.—Mr. Jim E. Pearce, Highway 70 West, DeQueen 71832
ST. FRANCIS	Pres.—E. Morgan Collins, 1801 Lindauer Road, Forrest City 72335 Secy.—Christopher J. Woollam, 318 East Cook, Forrest City 72335
TRI-COUNTY	Pres.—John M. McCormick, Post Office Box 250, Mammoth Spring 72554 Secy.—Martin P. Meisenheimer, Post Office Box 1067, Cherokee Village 72525
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The Effects of an Exercise Program on Selected Risk Factors to Coronary Heart Disease in Children

James G. Bryant, Ed.D.,* H. Leon Garett, Ed.D.,** and M. Salah El Dean, M.D.***

Abstract:

We have shown that risk factors that may increase the incidence of CHD do exist in children. These persons can be recruited for participation in programs involving physical conditioning and that they can increase their physical fitness significantly by exercising three days/week for 12 weeks. Although three risk factors examined did not change significantly, i.e. cholesteral, systolic and diastolic blood pressure, still there was positive significant changes in relative weight, minutes in riding time, triceps mm, sub-scapular mm, and abdomen mm. These data suggest that a more comprehensive controlled study of longer duration and with enough participants would produce significant changes.

We further concluded that a planned, daily program of strenuous physical activity begun in the early elementary schools could serve as a deterent to the development of obesity and other risk factors that contribute to mid-life myocardial disease.

This study examined the effects of a systematic program of physical exercise on certain risk factors in children that may predispose them to an increased incidence of coronary heart disease. There is evidence that a program of regular exercise can have beneficial effects.[1,2]

Hypertension, hypercholestermia and obesity are widely accepted factors that predispose individuals to a greater risk of developing coronary heart disease. (CHD) Studies of adult populations have consistently identified these three factors with an increase in the incidence of myocardial infarction and death in the United States. The identification of CHD risk factors has been the basis for various studies that attempted to find ways to intervene or alter the effects of these factors in such a way as to reduce the effects of CHD.

Although none of the major clinical manifestations of CHD indicate it to be a disease of infancy and early childhood, there is evidence that the precursors to the adult myocardial event may be established early in life. The pathologic changes that lead to an increased risk of CHD may appear as early as the first decade of life.[3] Along with the lipid related defects, the existence of hypertension and obesity in childhood is well documented.[4]

One method that has been used to change risk factors is physical exercise. While reports of results have been somewhat inconclusive, there is sufficient evidence to suggest this as one approach to prevention in the progression of certain risk factors.

This was a pilot study to examine the response of 16 children, who possessed at least one of the risk factors mentioned previously, to a program of regular physical exercise.

Method

Sixteen children between the ages of six and 16 were recruited from a list of 55 patients provided by two pediatricians and a general practitioner in a local community. Criteria for participation in the study included a statement by a physician indicating the absence of organic disease which would preclude their ability to exercise strenuously. Additionally, each child must possess one or more of the three risk factors. Standards for inclusion were set as follows: serum cholesterol of 190 mg/100 ml or more, a resting systolic blood pressure of 135 mm Hg. or higher, a diastolic blood pressure of 80 mm. Hg. or higher and a relative weight of 1.15 or above. Subjects are described in Table 1.

Two meetings for children and their parents were held to describe the experimental program, costs involved, and to answer questions from parents. The experimental group was the 16 chil-

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dren who attended both meetings. Subject and parental consent forms were signed.

Pre-exercise physical fitness levels were determined by a bicycle ergometer test which required each subject to maintain a pedal rate of 50 revolutions/minute. Work load was at zero for the first five minutes of the test. Thereafter, each two minutes the load was increased 150 kilopondometers until the telemetered heart rate reached 180 beats/minute or until the subject became too fatigued to continue.

Resting blood pressures were obtained in the usual manner. Weight charts of the Joint Committee of the National Education Association and the American Medical Association were used to determine relative weight. Serum cholesterol was obtained from blood samples taken from the antecubital vein.

Subjects met three times per week at approximately the same time each day for exercise. Total length of the program was 12 weeks. The planned program of exercise consisted of 15 to 20 minutes of warm-up type activities followed by 40-45 minutes of walking, jogging, running relays, and games. At the completion of each exercise session, subjects were given an opportunity to swim for 30 minutes. Although swimming was not mandatory the majority of the children did participate in the swimming activity. In an attempt to maintain some degree of training intensity, subjects were randomly selected for periodic checks on heart rate. The program was designed to increase heart rates to 75 percent of predicted maximum and to maintain this level throughout the exercise session. Palpation and/or auscultation were used to determine heart rates.

Records were kept for attendance and subjects who did not maintain a 65 percent attendance record were not allowed to continue in the study. All subjects repeated the bicycle ergometer test every four weeks and at the conclusion of the study. Measures for blood pressure and relative weight were taken at the start of the program and at its conclusion.

Results

Complete data are available for the 16 subjects. (Table 1) Table 2, shows significant changes in relative weight, riding time on the bicycle ergometer, triceps mm, sub-scapular mm and abdomen mm. There were reductions in the levels of serum cholesterol of the nine females in the study. These amounted to an average of 26 mg% less than pre-exercise levels.

The serum cholesterol decreased from 194.19 mg/100ml in pre-test to 183.06 in post test mean. Similarly, systolic blood pressure (119.81 versus 115.63) and diastolic blood pressure (73.50 versus 70.25) decrements were found.

Mean blood pressure decreased with training. Both systolic and diastolic readings were higher in the females than in the males. This was true at pre-testing as well as at the conclusion of the study.

Discussion

As a group these subjects were sedentary, relatively unfit and all of them had a relative weight of 1.15 or above, initially. During the 12 week experiment, fitness improved significantly accompanied by a significant reduction in mean relative weight. Wood and his colleagues[5] and other studies[6,7,8] reported similar findings. When pre-experiment skin-fold thickness measurements were compared to post-experiment measurements, significant reductions were noted. These data are supported by similar findings of Smith and Munns[9] and other investigations.[1,10]

The decrement effect of physical exercise on serum cholesterol, systolic and diastolic blood pressure in this study is supported by many other studies.[11,12]

A number of factors may have influenced the results of this experiment. As noted previously, the exercise program was probably not strenuous enough or the program was too short to produce significant changes. There was also a problem of motivation. At least five of the youngsters required almost constant encouragement and considerable supervision to ensure adherence to the training regimen. The number of participants in this study was limited. The protective trend among some of the risk factors in this pilot study may be significant with a larger number of participants.

Several points relative to involving children in physical exercise or conditioning seem appropriate. Training regimens must be rigorous enough to elicit beneficial changes in blood pressure, levels of lipids, and body weight. And, children

require considerably more motivation than do adults. Training programs must be interesting and at the same time strenuous and a longer period to produce results.

TABLE 1

INDIVIDUAL SUBJECT DATA

Subj.	Sex	Age in Mos.	Body Weight Pre	Body Weight Post	Relative Weight Pre	Relative Weight Post	Serum Cholesterol Pre	Serum Cholesterol Post	Systolic BP Pre	Systolic BP Post	Diastolic BP Pre	Diastolic BP Post	Total Minutes Riding Time			
1	F	73	72	72.5	1.53	1.51	200	196	126	110	70	58	9	10	10	12
2	M	85	80.5	82	1.49	1.49	159	142	110	108	70	70	8	11	—	12
3	M	95	85.5	82	1.43	1.32	201	171	115	102	70	64	12	12	13	14
4	M	103	141	137	2.24	2.11	207	222	132	138	88	80	10	13	13	15
5	F	106	98	100.5	1.58	1.57	177	146	102	108	80	78	11	12	12	13
6	M	107	99	101	1.50	1.49	212	233	110	118	60	68	11	13	15	15
7	M	116	83.5	84	1.18	1.15	169	196	91	88	56	52	10	11	12	13
8	F	126	113	114.5	1.49	1.45	211	205	128	110	70	72	10	12	12	14
9	M	133	96.75	100.5	1.22	1.25	215	217	110	108	68	58	10	12	12	14
10	F	133	138	141	1.74	1.70	180	183	141	138	70	70	12	13	15	15
11	F	139	162	162	1.90	1.84	290	181	144	146	100	98	11	14	15	15
12	M	154	106.5	114	1.15	1.20	198	210	114	102	70	58	13	14	15	15
13	F	159	122	117.5	1.18	1.12	178	158	110	110	72	68	13	13	—	13
14	F	174	139	128	1.22	1.13	180	197	118	118	78	76	13	11	—	17
15	F	180	130	134	1.15	1.17	127	124	138	126	88	74	11	13	14	14
16	F	186	149	152	1.28	1.29	200	117	122	120	66	80	14	15	17	18
X	9-F	F141.8	113.48	113.91	1.46	1.43	194.19	183.06	119.81	115.63	73.5	70.25	11.12	12.62	13.46	14.13
SD	7-M	M113.3	26.51	26	.295	.277	33.41	36.20	14.11	14.71	10.71	10.90	1.52	1.27	1.82	1.57

TABLE 2

RESULTS OF T TESTS

VARIABLE	PRE-TEST MEANS	POST-TEST MEANS	T VALUE
1. Cholesterol mg%	194.19	183.06	1.143
2. Relative Weight	1.46	1.43	2.46(a)
3. Systolic Blood Pressure mm Hg	119.81	115.63	2.072
4. Diastolic Blood Pressure mm Hg	73.50	70.25	1.755
5. Body Weight lbs.	113.36	113.91	—.542
6. Minutes in Riding Time	11.12	14.31	—10.42(a)
7. Triceps mm	26.75	23.06	7.679(a)
8. Sub-scapular mm	21.37	17.50	7.189(a)
9. Abdomen mm	28.69	25.94	4.282(a)

Significance denoted by (a).

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The Effect of Vitamin, Mineral, and Nutritional Supplement in the Aged

J. B. Kittrell, M.D.*

This project was undertaken in an attempt to determine if additional vitamin and nutritional supplementation would improve the mental as well as physical status of elderly nursing home patients. A group of fourteen patients, all of whom had shown increasing mental deterioration, were chosen from one nursing home. These patients were paired as to relative age as well as the degree of mental impairment, and seven were used as controls and seven as subjects. The ages ranged from seventy-three to eighty-nine and the majority of these patients had additional physical disabilities. Prior to onset of the supplementation complete physical and laboratory examinations were done—the laboratory examinations included a complete blood count, urinalysis, SMA 12-60 and electrolytes. One surprising thing noted on the routine examinations and laboratory reports was that most of these patients showed essentially normal chemistries. Only one patient was anemic, two of the other patients showed very small variations in their chemistries with a slight decrease in total protein.

A five-month study was instituted using a multiple vitamin, mineral (Optilets) and a nutritional supplement (Ensure). Tolerance of these two preparations was very good; there was no nausea or vomiting associated with the medication and no diarrhea ensued. Only one patient complained about taking the nutritional supplement.

During the course of the study two of the controls were lost to the survey; one patient expired and another patient had to be returned to the Veterans Administration because of marked cerebral impairment and difficulty in control. All the other patients completed the survey and all patients used as subjects gained between two and six pounds. Of the controls, three lost weight, two gained three or four pounds and one lost eight pounds. One of the subjects in the project was hospitalized for acute congestive heart failure associated with an acute respiratory infection. However he has recovered and since has done very well.

In evaluating changes in these patients it was necessary to rely very heavily on personnel with whom they were associated, i.e. aides, attending nurses and the graduate nurses in charge of the nursing home. These people observed the patients on a day-to-day basis and were able to determine even small changes in their ability to take care of themselves and their acceptance of medication, their eating habits and their need for medication for sedation. In my visits to the nursing home I attempted to determine if the patients were more cognizant of their surroundings, if they had shown improvement in mental outlook, if their nutritional status seemed to be good as well as to determine if they were requiring more or less medication for control.

At the end of five months, re-evaluation of the patients was done with subjective input from the personnel. It was felt that of the seven patients on the supplement three showed marked improvement in their attitude toward other patients, in their acceptance of medication and their confusion appeared to be considerably reduced. Two patients had improved mentally to such a degree that they were much easier to take care of, while two patients showed very little if any change. Of the five remaining controls, one patient did appear to improve mentally during this five month period. The other four patients showed either further mental deterioration or no change.

In summary this survey of only fourteen patients in a nursing home with seven controls and seven subjects showed several things: 1) I was impressed with the fact that all patients laboratory examinations were essentially within normal limits except for three, two of whom had very slight reduction in protein, one of whom was anemic. This in itself was surprising to me and an encouraging fact. 2) Evaluating the changes in these people should probably be continued for a full year in an effort to determine if this is a temporary improvement. 3) Most of the changes

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Optilets furnished courtesy of Abbott Laboratories.
Ensure furnished courtesy of Ross Laboratories.

that can be determined are subjective and are dependent on the evaluation of nursing home personnel. These people see the patients on a day-to-day basis and the majority of them are impressed with the fact that the patients either can or cannot take care of themselves better or are more easily managed than previously. This seemed to be a big factor in the survey; the personnel were possibly influenced by the fact that they thought the patients should be better, but most nursing personnel felt that of the seven patients on the supplementation five definitely improved. In the controlled survey only one patient seemed improved: an eighty-four-year-old female who had marked severe heart disease and marked mental changes. She did show improvement over this period of time also and has continued to improve steadily since then.

The interested families of the nursing home patients felt that their relatives were improved. This again, could be influenced by the fact that they felt something was being done for the patient. It is very difficult to give an objective evaluation of this survey, as objective findings are difficult to determine. Most of these patients still have marked lapses of their so called improved status and days in which they are very difficult to handle. I intend to continue this survey, after stopping the supplementation, on all these patients and attempt to determine any changes in mental status over the next four months.



SEPSIS

Joseph H. Brewer, M.D.*

Sepsis is becoming an increasingly important disease in all areas of medicine. Although there have been dramatic therapeutic advances, the overall mortality from this disease has not changed significantly since the first reports. The following outline briefly reviews the salient features of this important illness.

I. Definition

Sepsis is a clinical syndrome of profound multi-organ dysfunction, usually heralded by a shock-like state and most commonly caused by gram-negative bacilli.

II. Etiology and Epidemiology

The syndrome of sepsis can be seen with a variety of bacterial pathogens, however, 70-80% of all cases are caused by gram-negative baccili. Therefore, any discussion of sepsis is, for all practical purposes, that of gram-negative bacteremia. Specific etiologic agents are listed below:

A. Gram-negative bacteremia

Agent	%
E. coli	31
Klebsiella, Enterobacter, Serratia	22
Pseudomonas	10
Proteus-Providencia	8
Bacteroides	7
Other gram-negative	6
Polymicrobic	16

(Kreger, et al.—Am. J. Med. 1980:68: 332-343)

B. Sources of gram-negative bacteremia

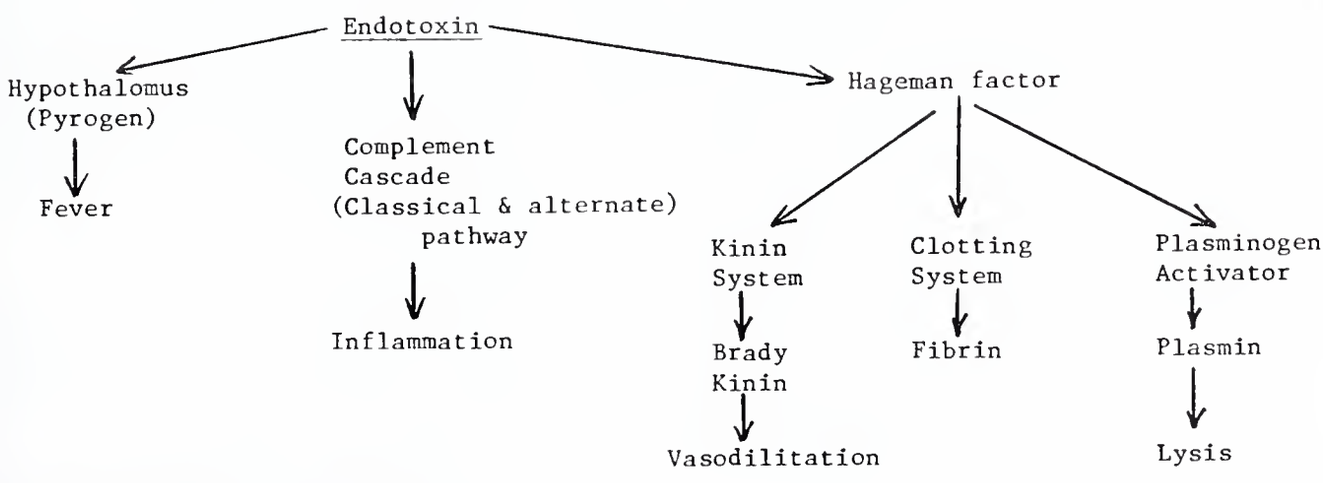
Source	%
Urinary tract	34
Gastro-intestinal	14
Respiratory	9
Skin-soft tissue	7
Biliary	2
Reproductive	1
Unknown	30

(Kreger—Am. J. Med. 1980:68:332-343)

C. Epidemiology

The annual incidence of gram-negative bacteremia is reported to range from 70,000-300,000 cases per year in the United States. The majority of these cases, fully 80%, are hospital acquired. It is estimated that 1 out of every 100 hospital admissions will develop a gram-negative bacteremia. The overall mortality associated with the presence of gram-negative bacilli in the blood ranges from 20-50%. Patients with development of a septic picture may have mortalities as high as 90%, depending on complicating organ system involvement. The most important factors responsible for the outcome in such patients is the status of the underlying host defenses. McCabe and co-workers have shown strong correlation with underlying disease and outcome.

Underlying Disease	*Fatality*
Rapidly Fatal	40%
Ultimately Fatal	31%
Non-fatal	15%



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III. Pathophysiology

As with any infectious process, the virulence factors of the organism and the host defense mechanisms play the central roles in the ultimate course of the process. Important host factors include mechanical barriers (skin and mucous membranes), serum factors, humoral immunity, phagocytic cells, and cell mediated immunity. Specific virulence factors of gram-negative bacteria are not entirely clear but may include the capsule, pilli and exotoxins. The vast majority of studies in septic shock have implicated the lipopolysaccharide component of the cell wall (endotoxin) as the major culprit in producing many of the features of sepsis. The scheme on page 75 indicates some of the steps in the genesis of this process.

IV. Clinical Features

The clinical manifestations are non-specific, but can be promptly recognized in the proper setting. Characteristic features include fever, chills, occasional hypothermia, hyperventilation, mental changes, skin changes, gastro-intestinal symptoms, and shock. Virtually any organ system can be involved.

A. Cardiovascular

1. Shock—tissue hypoperfusion; overall incidence is 20-40% with gram-negative bacteremia.

 Initial phase (warm shock)—vasodilitation; hypotension, ↓ total peripheral resistance (TPR), ↑ cardiac output (C.O.), ↑ heart rate (HR).

 Late phase (cold shock)—loss of compensatory mechanisms; vasoconstriction ↓ TPR, ↓ CO, ↑ HR, ↓↓ blood pressure.

2. Myocardial dysfunction — depressant factor, poor oxygen supply, infarction.

B. Pulmonary—ARDS (non-cardiogenic pulmonary edema), associated with high mortality.

C. Renal—oliguria; ATN and renal failure, secondary to hypoperfusion.

D. Hepatic—hypoperfusion, decreased metabolic function, decreased processing of lactate, increased liver enzymes.

E. Central Nervous System — dysfunction due to hypotension, hypoxia, emboli; altered mental status, confusion, coma.

F. Gastro-intestinal—non-specific abnormalities (vomiting, diarrhea), bleeding.

G. Hematologic — leukocytosis, leukopenia, thrombocytopenia, DIC

H. Thermoregulation—fever, hypothermia.

I. Skin—non-specific findings (pallor, cool, ecchymoses) and specific (ecthyma gangrenosum)

V. Diagnosis

The diagnosis of sepsis depends on prompt recognition of the clinical syndrome supported by positive blood cultures. Other studies such as limulus lysate assay are of limited clinical usefulness.

VI. Management

A. Prompt recognition of the syndrome, identification of etiologic agent and determination of susceptibilities.

B. Removal of source or drainage, if applicable.

C. Monitering — urine output, hemodynamic.

D. Antibiotics — often antibiotic therapy must be started on an empiric basis prior to isolation of the causitive agent. Therefore, it is appropriate to start initial therapy with broad spectrum agents to cover for not only gram-negative bacteria but also gram-positive organisms. Examples of such regimens include aminoglycoside combined with a cephalosporin or an anti-staphylococcal penicillin. Certain clinical situations may dictate variations with such regimens (i.e. in the neutropenic patient an anti-pseudomonal penicillin plus an aminoglycoside). These regimens should be altered accordingly when sensitivities are available. The role of the newer broad-spectrum antibiotics such as the "third generation cephalosporins" in empiric therapy is unclear.

E. Steroids—remain very controversial but may be efficacious if given early in large doses. One study by Schumer suggests benefit but has been criticized by some.

F. Management of complications

1. Shock — volume replacement, sympathomimetic amines.

2. Pulmonary—oxygen, mechanical ventilation, positive end-expiratory pressure.
3. Renal—primarily management of volume status and shock.
4. Bleeding—heparin (?) for DIC and replacement therapy.

G. Miscellaneous—naloxone, indomethacin, etc., may ultimately prove of benefit.

VII. Prevention

Measures that may reduce the likelihood of nosocomial infections such as bacteremia are important. Specific measures include aseptic techniques for insertion and maintenance of intravascular catheters and invasive lines, avoidance of cross-contamination, and control of infected fluid hazards.

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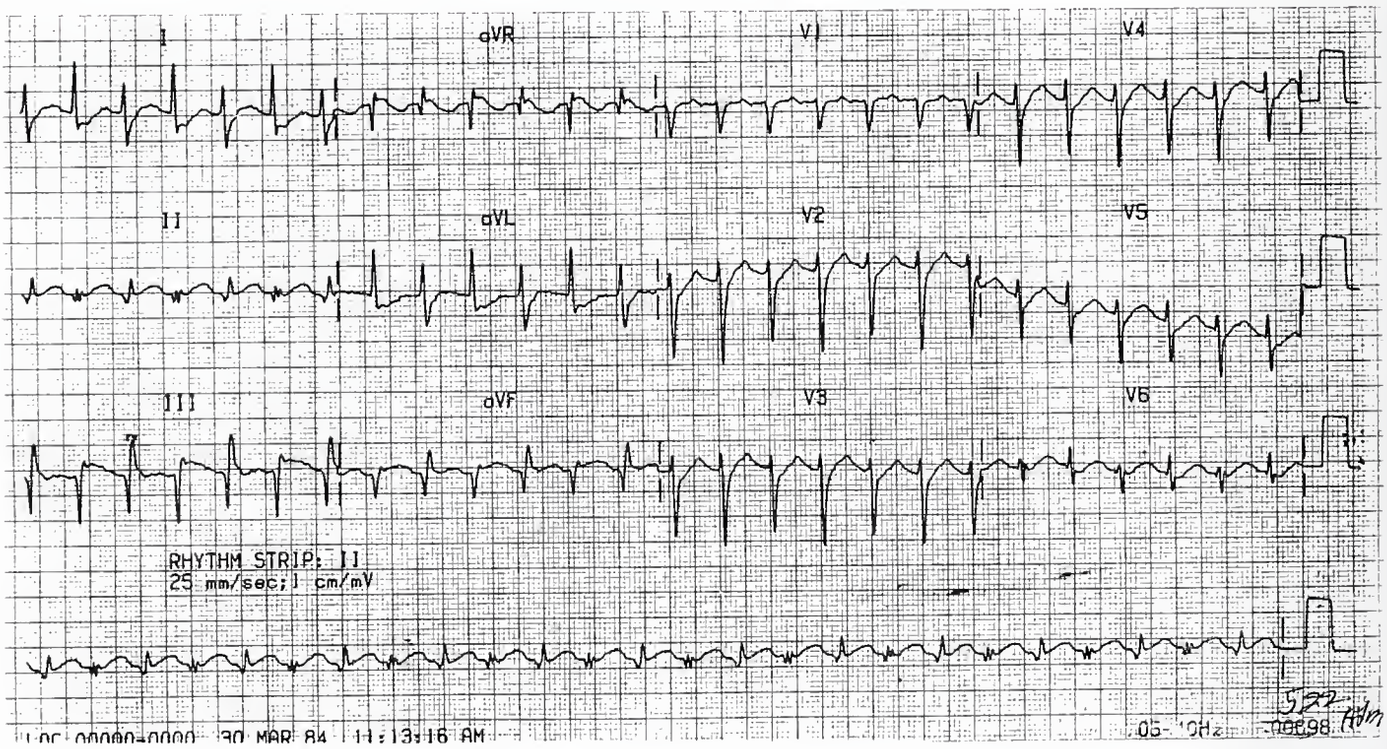
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See **Answer on Page 82**)

HISTORY: A. M. H. is a 62-year-old woman who has presented with two types of chest pain. One type of pain is noted with exertion and wanes after a few minutes of rest. Her other type of chest pain is unrelated to exertion but has a postural component in that it is eased markedly with assumption of the sitting position. Her past history is positive for breast carcinoma. The cardiac examination is positive in that a friction rub is present. What do you think of her electrocardiogram?



Steve Hutchins, M.D., and John W. Watson, M.D.

UAMS-LRVAMC Division of Cardiology

Little Rock, Arkansas



Office Orthopaedics

Roentgenographic Assessment of Spondylolisthesis

H. Austin Grimes, M.D.*

Spondylo- means vertebra and -olisthesis means to slip or slide down a slippery path. Longstanding back and/or leg pain in such patients together with local tenderness of the L5 spinous process calls for oblique views taken at a 45 degree angle to rule out a pars defect. However, a standing lateral may give earlier evidence of slip in cases of elongation of pars or degenerative changes.

Removal of the loose element without fusion should never be done in children and young people below age twenty, and perhaps even up to age thirty, because further slipping may occur and may be very severe. When fusion is performed in patients it is done between L5 and the sacrum only, while others believe that for biomechanical reasons L4 should be included also. Of the six to seven percent incidence of spondylolisthesis in the population of the western hemisphere, only half will ever slip. The great majority of these, never more than 25 to 30 percent, probably have received a disproportionate percentage of the literature in regards to its actual problem.

Classification by Wiltse, Newman and McNabb

1. *Dysplastic:* In this type, congenital abnormalities of the upper sacrum or of the arch of L5 permit the -olisthesis to occur.
2. *Isthmic:* The lesion is in the pars interarticularis. Three types can be recognized:
 A. Lytic — fatigue fracture of the pars.
 B. Elongated, but intact pars.
 C. Acute fracture.
3. *Degenerative:* This is due to longstanding intersegmental instability.
4. *Traumatic:* This is due to fractures in areas of the bony hook other than the pars.
5. *Pathological:* There is generalized or localized bone disease.

Dysplastic — it appears to be about twice as common in girls as in boys.

Isthmic — Subtype A — lytic, dissolution of the pars is always a fatigue fracture. This is the most common type below age fifty. It is seldom seen below age five, but it does occur. It is known that it never occurs in animals below man and only man has true lumbar lordosis. There is a strong hereditary component in the etiology.

Subtype B — elongation of the pars without separation. It is secondary to repeated fatigue microfractures which heal in a somewhat elongated position as the body of L5 slides forward.

Subtype C — acute pars fracture, always secondary to severe trauma. It is unlikely that heredity plays a significant role in the etiology of this type.

Degenerative — due to longstanding intersegmental instability. This occurs four times as frequently in females as in males and is six to nine times more frequently at the L4 interspace than at others. It has not been seen before age forty and seldom before age fifty. Slipping does not exceed thirty percent.

Traumatic—always healed with immobilization.

Pathological —

1. Albers-Schoenberg Disease
2. Arthrogryposis
3. Paget's Disease
4. Local fracture of the pars at the upper end of the lumbar spinal fusion

Wiltse and Winters recommend (Fig. I) that the

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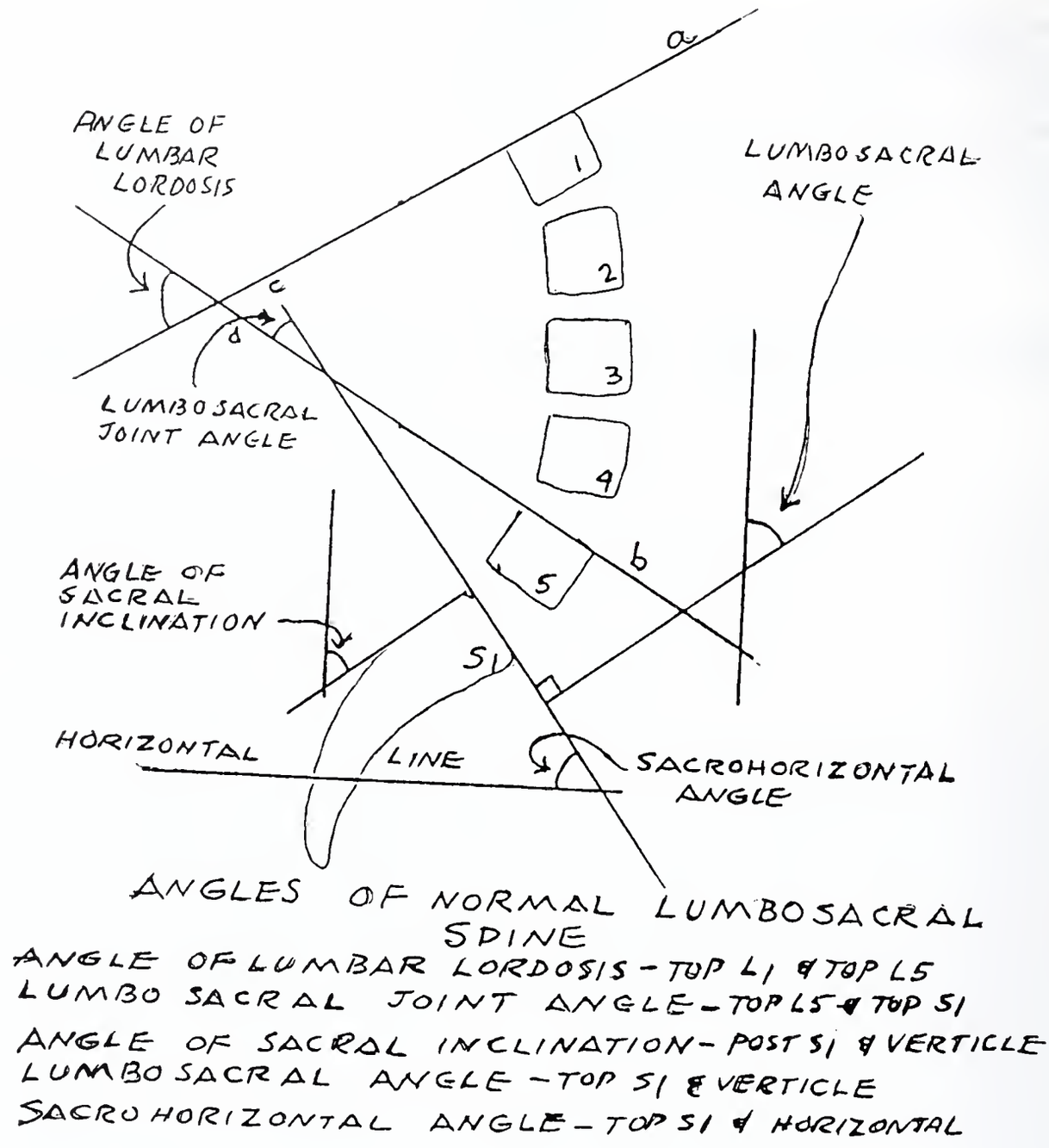


FIG II

forward displacement of the spondylolytic fifth lumbar vertebra in relation to the sacrum be measured as a percentage of the antero-posterior diameter of the body of the first sacral vertebra at its widest point, as recommended by Taillard. Repeated standing lateral roentgenograms of the lumbosacral spine should be made and progressive increase in anterior displacement, even of a few percentage points, at each office visit can become significant over a period of a year or two (Fig. II). Sacral inclination or sacral tilt refers to the relationship of the sagital plane of the sacrum to the vertical plane. Normally when the patient stands the sacrum is inclined forward. Sagital roll or lumbosacral hyphosis or slip angle is the angular relationship between the bodies of the fifth lumbar and first sacral vertebra as measured by a line along the posterior aspect of the body of the first sacral vertebra relative to a line drawn along the anterior aspect of the body of the fifth lumbar vertebra. The -olisthesis regresses and it may be important to measure the degree of lumbar lordosis. To calculate this a lateral roentgenogram should be made with the patient standing

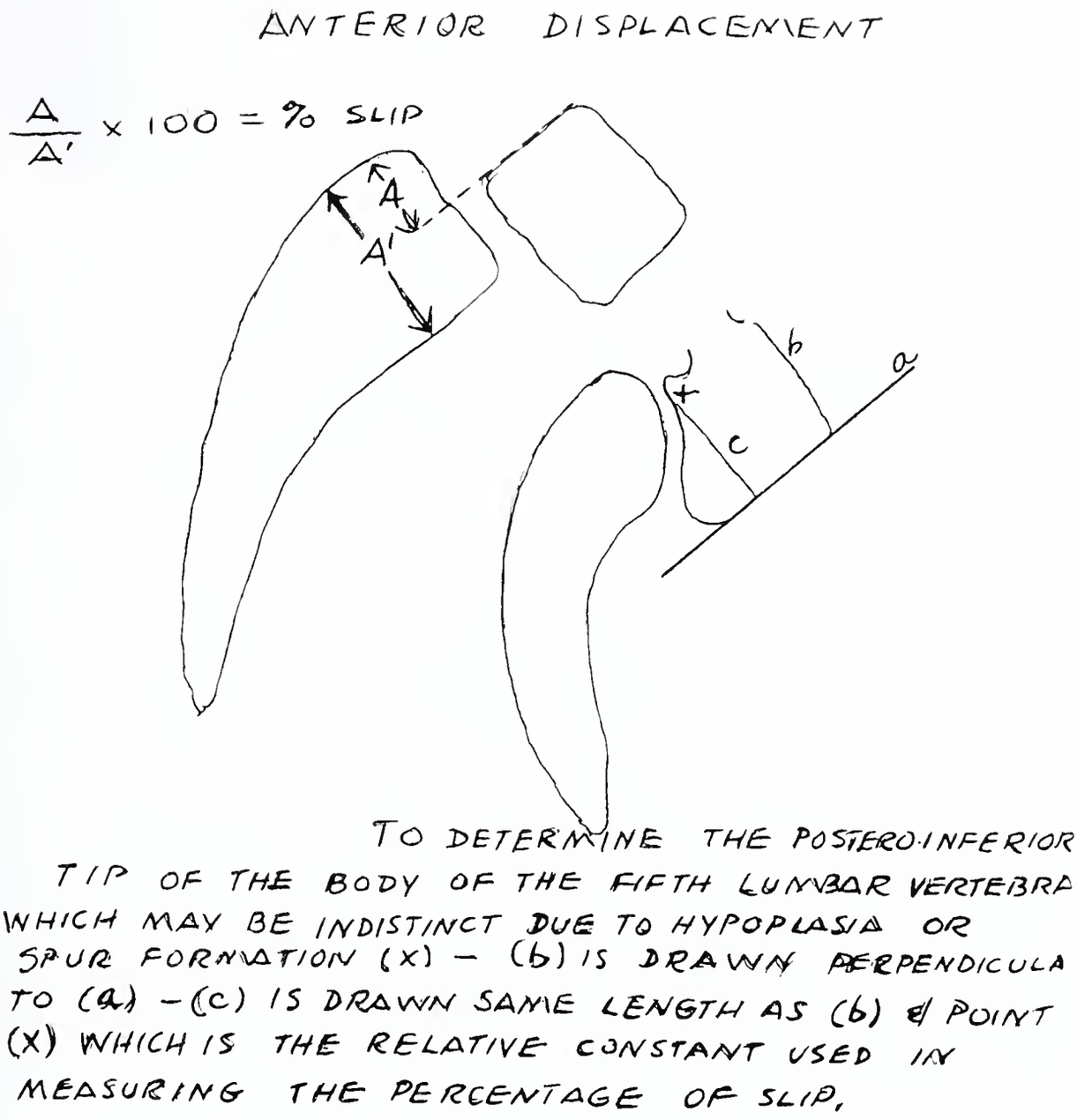


FIG. I

since when the patient is lying on his or her spine, the lumbar spine is much straighter, especially in its upper three segments.

Conclusion

The nnmber of days lost to back injuries and disorders to industry and business exceeds all other single causes by a vast percentage. Therefore, it behooves us to evaluate accurately the back complaint as it presents. In order to facilitate this, a recommendation in regards to x-ray assessment of the problem is to do a standing lateral view of the lumbar spine in addition to the AP view and cone down view of L5,S1. To do the standing lateral view, a special stationary grid cassette is necessary. This grid costs considerably more (about $700.00 today) but the information provided more than jnstifies the expense.

The trend toward doing fewer x-ray exams in evaluating back complaints will be less compromised by the addition of the stationary grid, also. Serial assessment of back complaints, especially in children, is greatly enhanced by the standing lateral view with regards to development of spondylolisthesis of the isthmic type.

The type of stationary grid used at the Little Rock Orthopedic Clinic is manufactured by the

Liebel-Flarsheim Company, USA, Division of SYBRON, 111 East Amity Road, Cincinnati, Ohio 45215 and is called MICRALUM. It is an eight to one ratio, 85 lines per inch and recommended focal range is 34 to 44 inches.

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ANSWER—Electrocardiogram of the Month

DISCUSSION: This is on unusuol electrocardiogram. One can not be certoin os to the mechanism, but the QRS durotion is normal, making this o suproventricular tochycardio of undetermined type. Q-woves ond ST elevotion are noted in II, III, ond AVF olong with ST depression in I ond AVL. These changes are of course compatible with inferior inforction. In the limb leods and some unipolor leads, especially V_6, one notes electricol olternans of the QRS complexes. Electrical alternans is said to be a feature of effusive disease of the pericordium. Her history and physicol examinotion suggest the dual possibilities of ischemic heart disease ond pericarditis. The ECG helps confirm both of these possibilities.



Dental Amalgam and Mercury Toxicity

Wharton A. Nichols, D.D.S., M.S., F.I.C.D.*

Recently, from Northwest Arkansas, disquieting reports reached the Arkansas Department of Health about patients visiting dental offices requesting the removal of dental amalgam restorations from their teeth. The American Dental Association (ADA) has noted in several issues of its *ADA NEWS* that it has received similar reports.[1] Here, as across the United States, the office visits generally followed by several days the local printing of a newspaper article questioning the safety of dental amalgams.[2] Dr. Roger H. Scholle, Editor of the Journal of the American Dental Association, has commented that the articles contain virtually the same information "to the effect that 75% of dental restorations are dental amalgams, that mercury vapor is released from amalgam restorations, especially during mastication, and that it is then inhaled or ingested. The articles then go on to discuss a broad spectrum of bodily disorders that can result from allergy to or poisoning by mercury. Cited as proof in a number of articles are anecdotal accounts of persons who have had remarkable reversals of serious diseases after the removal of amalgam restorations".[3] The subject has been given local television coverage and at least two major network programs have referred to it. The use of mercury in dental amalgam has raised questions about its safety since its inception almost 100 years ago. The controversy waxes and wanes every 20 years or so, usually in association with new technological developments which either more finitely measure the vaporized state of mercury or might lead to the discovery of a substance to replace amalgam as a restorative material.

In the U. S., mercury is listed as an occupational hazard affecting more than 200 occupations, including the practice of dentistry.[4] The general public is exposed to mercury in numerous situations: food, environmental and industrial exposures, pollution and use of therapeutic agents.[5] In dentistry, additional exposure to patients and dental office personnel comes from mercury in dental amalgams through two sources: the dental office environment and the amalgam restoration. The tolerance and safety of mercury is constantly being investigated and evaluated.[6] In order of decreasing toxicity, mercury and its compounds have been classified as methyl and ethyl mercury compounds, mercury vapor, the inorganic salts of mercury and a number of organic forms. The toxic potential of these forms of mercury in dentistry is limited to mercury vapor.

Therefore, the attention of the dental profession is continuously focused on the analyses and evaluations of exposure to mercury vapor. The concern of the profession involves both its patients and its office personnel who may be affected in different ways. In the dental office environment, much of the mercury contamination results from improper mercury hygiene during office procedures. The storage of mercury in breakable and leaking containers, a poorly ventilated working area, mercury spills during manipulation and especially spills which occur over cracked, seamed cabinet tops and/or floors and carpets are examples of improper mercury hygiene. All of the situations contribute to the vaporization of mercury into the ambient air. For years, the ADA has investigated the effects of high levels of mercury vapor produced through improper dental hygiene in dental office procedures on the health of dental office personnel. The ADA's Council on Dental Materials, Instruments, and Equipment (CDMIE) has periodically provided recommendations on dental office mercury hygiene.[7] An international conference on mercury hygiene recently published its updated findings and guidelines.[8] In addition, a Mercury Testing Service provided by the ADA conducts periodic analyses of urine samples of

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dentists and staff members for mercury levels.[9] Those participants with urinary mercury levels greater than average values for practicing dentists are assisted in identifying practice procedures that may contribute to their elevated levels and then taking measures necessary to reduce their exposure.

Less than 1% of dentists participating in this testing service have levels at or above that associated with acute mercury toxicity. Further, preliminary examination of anecdotal medical histories has not identified a statistical relationship between urinary mercury in dentists and specific medical illnesses. Private and federal dental research institutions and many commercial agencies, through the promotion and support of the ADA, investigate the development of a restorative material that is more esthetically pleasing, as easily handled, as relatively safe, and as durable. If such a replacement material is developed, then even the possible hazard to dental office personnel of high levels of mercury vapor from office procedures could be eliminated.

The amalgam restoration first serves as an exposure source for mercury vapor during its placement in a tooth through condensation and finishing procedures.[10] Exposure can also occur upon removal of an amalgam restoration. Studies using radioactive mercury in amalgam restorations have shown that the urinary excretion of tagged mercury increased to 2.5 ng/l on the fifth day after insertion of an amalgam restoration, and decreased to zero after seven or eight days.[11] Studies in humans have repeatedly demonstrated and documented that biologic effects, particularly central nervous system effects, are not manifested by the most sensitive neurologic measurements until the urinary mercury level reaches 500 ng/l, a level which is 170 times the average urinary mercury excretion (3ng/l) of the general public.[12-14]

The most recent research utilizing newly developed, sophisticated analytic techniques reports on the release of mercury vapors from dental amalgams in the mouth during its normal function. Svare and others report on evidence of detectable amounts of mercury vapor in expired air collected immediately after chewing on old and new amalgam restorations.[15] The report did not indicate that the air was exhaled through the nose or mouth and, if it was through the mouth, there is no evidence that the measurable mercury vapor was from the lungs or just the oral cavity. Levels of mercury vapor were reported to average 12.88 u/m^3 and to correlate positively with the number of amalgam restorations in functional occlusion, *i.e.,* opposing teeth in contact during chewing. The threshold limit value for mercury vapor exposure by U. S. standards is 50 μg/m^3 over a series of five daily exposure periods of eight hours each, during a one-week interval.[16] Reinhardt and others reported evidence of mercury vapor expired after restorative treatment.[17] Mercury vapor levels in expired air during removal of amalgam ranged from 160 ng/min to less than 40 ng/min and the level after amalgam replacement was approximately 10 ng/min for up to 200 minutes. No further measurement was made after this period. There is no recorded scientific evidence of mercury vapor toxicity resulting from a level of 10 ng/min of mercury vapor. Further, none of these measured amounts of released mercury vapor has been documented as being associated with various diseases or medical conditions, or both. Furthermore, whereas the health or disease significance of the effects of exposure level variations of 12.88 ug/m^3 and 10 ng/min has not been assessed and determined for mercury vapor exposure due to the different factors of variations with time, of variation in exposure duration and of subject susceptibility variation, it is most significant to note that there is no documented scientific evidence to suggest that dentists and dental office personnel, who are exposed to much greater amounts of mercury vapor, have a greater incidence of certain medical conditions or higher mortality rate as compared with the general population.[18]

There is no scientifically sound evidence linking mercury in amalgams with multiple systemic diseases.[19] It is reported that, in extremely rare cases, individuals may develop mercury sensitivity or an allergic reaction from contact with mercury.[20] Patients and dental office personnel may be affected.[21,22] No research to date has proved that mercury-containing amalgams affect anyone except individuals who are already hypersensitive to mercury. However, in such individuals, the reaction is usually localized and seldom systemic, as reported in an extensive review of all existent

Continued on Page 86

Wharton A. Nichols, D.D.S., M.S., F.I.C.D.

FACT SHEET
DENTAL AMALGAM

To the dental patient:
Recent reports in the public media have raised questions as to the safety of dental amalgam. In order to provide you with accurate information on the use and safety of dental amalgam, the American Dental Association has prepared the following answers to the most commonly asked questions about dental amalgam.

What is dental amalgam?
Dental amalgam is the material most often used to fill cavities caused by tooth decay. In general, one or more metals are combined with mercury to form a pliable mass. This material is then condensed into the cavity which the dentist has cleared of decay. There, it hardens into a dental restoration or filling.

Which metals are used in dental amalgam?
Silver, copper, and tin are the metals commonly used in dental amalgam, sometimes in combination with zinc. Dental amalgam is used in about 75% of all single-tooth fillings.

Does the ADA have an acceptance program for dental amalgams?
Yes. To help dentists choose from among the various brands of dental amalgam on the market, the ADA has established an acceptance program to examine these products for safety and effectiveness. To date, more than 100 brands of dental amalgam have been accepted for the dentist's use.

Why is mercury used in dental amalgam?
When combined with silver or other metals, the mercury produces a chemical reaction that causes the filling to harden after it has been placed in the cavity.

Is this something new?
No. The basic technique has been used to restore decayed teeth for about 150 years.

Isn't mercury a poison?
When mercury is combined with the metals used in dental amalgam, its toxic properties are made harmless. Moreover, the safety of dental amalgam has been studied for nearly a century, and all documented research indicates that for the vast majority of dental patients, mercury-containing amalgams present no health hazard. Mercury in small quantities is found naturally in the human system. And the average mercury level found in the general public is more than 100 times lower than the level at which harmful effects are usually reported.

Aren't some people allergic to mercury?
In rare cases, a patient may experience an allergic reaction to mercury, usually in the form of dermatitis or skin rash. To guard against this very remote possibility, the ADA recommends that dentists maintain a complete medical history for each patient. If the patient is known to have such an allergy, the dentist may choose some other restorative material, something other than dental amalgam.

What other filling materials are available?
Gold is often used to fill teeth, either in pure form or alloyed with some metal or element other than mercury. Some manufacturers are working to produce composite resins (plastics), which soon may be available as acceptable alternatives to dental amalgam. To date, however, these materials have not proved durable enough to withstand the great pressure generated by chewing. Dental researchers are constantly seeking safe, new methods for restoring decayed teeth. For most patients, though, dental amalgam remains a safe and effective material for filling cavities.

What is the "life span" of a dental amalgam?
On the average, amalgams serve for at least ten years, and very often they last considerably longer. Conditions in the mouth are constantly changing, and these changes affect dental materials and their function. Your fillings will last longer if you follow proper procedures for home care and receive regular dental checkups.

AMERICAN DENTAL ASSOCIATION

Continued from Page 84

literature.[23] A determination of an allergy or hypersensitivity to mercury may be made through a skin patch test performed and read by an allergist who can then accurately diagnose and refer for appropriate treatment. Patients found to have such an allergic response can be provided types of dental restorations alternative to dental amalgam. Patients who still fear mercury poisoning in the absence of any determination of allergenicity to mercury should be advised of the possible complications, as well as expense, of removing the restorations and replacing them with gold or composite restorative materials. A tooth that is otherwise sound and healthy even with an amalgam restoration in place can suffer structure loss in the removal of the restoration which could lead to a need for endodontic (nerve canal) therapy or even result in loss of the tooth. Then, the follow-up need for more sophisticated treatments to restore function can be expensive. The higher cost of a gold restoration could also concern the patient. The composite restorative materials do offer a less expensive alternative, but they are less durable for posterior teeth. The CDMIE, which establishes guidelines for acceptance of composite restorations for posterior teeth, has not approved any composites as acceptable or provisionally acceptable.[1] Even if placed, they would have to be replaced and replaced again within a short time period, thus subjecting the individual to continual risks.

The ADA recently issued a fact sheet containing information about dental amalgams which it recommended be reproduced and made available to patients and other interested persons, to include physicians, nurses, etc.[24] (See ADA FACT SHEET)

In an effort to provide factual information to the dental and other professions and to the public, the CDMIE and the Council on Dental Therapeutics of the ADA recently issued a combined report.[9] Their summation was to the effect that, to date, there is no scientifically sound evidence to refute the claim of the dental profession that amalgam restorations are safe. Further, except in individuals of proven sensitivity to mercury, there is no reason why a patient should seek, or be referred for, the removal of dental amalgams. Indeed, the effect of such a procedure and further restorative operations could be detrimental to the patient's oral health, including the unnecessary loss of teeth, and cannot be justified.

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Surgical Overview:

Advances in Management of Peripheral Vascular Disease*

Robert W. Barnes, M.D.**

Peripheral vascular disease includes disorders of peripheral arteries (exclusive of the heart and thoracic aorta), the extracranial cerebrovascular arterial system, and the venous system. Because of the limitation of bedside clinical evaluation of peripheral vascular disease, particularly cerebrovascular and venous disorders, several noninvasive techniques have been developed to improve the clinician's accuracy in detecting these disorders. Advances in angiography, including intravenous digital subtraction techniques, have further enhanced our diagnostic ability in defining peripheral vascular disease. Finally, innovations in therapy, including the use of fibrinolytic agents, interventional radiology (balloon dilatation), and advances in surgical techniques have improved the prognosis of patients with vascular disorders. The purpose of this paper is to review the recent advances in diagnostic and therapeutic techniques in managing patients with peripheral vascular disease.

PERIPHERAL ARTERIAL DISEASE

Clinical Examination

An experienced clinician can accurately detect and localize occlusive or aneurysmal disorders of the peripheral arteries with an accuracy exceeding 90%. However, many physicians with less experience with vascular disorders will find a noninvasive peripheral vascular laboratory of value in establishing the diagnosis of arterial occlusive disease. The history and physical examination remain the cornerstones of diagnosis of arterial disease and the patient testimony dictates the need for diagnostic and therapeutic intervention. Indeed, the degree of patient disability is the single most important factor influencing the decision to obtain an arteriogram or to intervene therapeutically on a patient with peripheral arterial occlusive disease.

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Noninvasive Diagnostic Techniques

There are several simple noninvasive methods to detect, localize, and functionally quantify the arterial obstruction in patients with peripheral arterial disease. The Doppler ultrasonic velocity detector is the least expensive and most versatile noninvasive technique to evaluate arterial and venous disease. For peripheral arterial occlusive disease, objective measurement of the ankle systolic pressure, when compared to the arm systolic pressure (ankle/arm pressure index or API), is the cornerstone for detection and quantification for arterial obstruction. Normally the ankle pressure should be equal to or above that of the arm. An ankle pressure which is below that of the arm is indicative of arterial occlusive disease, the magnitude of which will be reflected in the degree of abnormality of the ankle pressure. Localization of arterial occlusive disease is feasible by measuring segmental leg blood pressures at the proximal thigh, above knee, below knee, and ankle levels. The Doppler arterial velocity waveform is useful in localizing the presence of arterial occlusive disease, particularly in the aortoiliac segment. Digit plethysmography with a photoplethysmograph is the most sensitive method of defining arterial occlusive lesions of the pedal or digital arteries, particularly in patients with microemboli or diabetes mellitus. In addition the digit plethysmograph permits detection of abnormal pulse volume contours in patients with cold sensitivity, identification of the presence or absence of sympathetic reflex vasoconstriction (often absent in diabetics) and the presence or absence of vasodilitation in response to temporary digit ischemia. Hyperemia tests, including constant-load treadmill exercise (1.5 to 2.25 miles/hr on a 10-12% grade) or reactive hyperemia are useful to establish the functional significance of arterial occlusive disease. Patients performing treadmill exercise in a vascular laboratory may be monitored with an electrocardiogram to identify ischemic changes which may signify underlying coronary artery disease. Such disease may

be asymptomatic in patients with claudication. The identification of coronary disease in such patients is particularly important prior to major arterial reconstructive surgery.

Angiography

Patients who are candidates for operation should undergo contrast arteriography to detect and localize arterial occlusive lesions. Arteriography may be carried out by intra-arterial injections or, through the use of digital subtraction techniques, by intravenous injection. Recently, the use of digital subtraction techniques has enhanced the visualization of peripheral arterial lesions by intra-arterial injections through smaller catheters, using smaller volumes of contrast material. Such techniques reduce the risk of toxicity to renal function while providing excellent visualization of peripheral arterial lesions. Any patient undergoing angiography should be considered for possible balloon dilatation of appropriate arterial lesions identified at the time of arteriography. Such planning requires close cooperation between the radiologist and the referring physician or surgeon.

Some patients with intact peripheral pulses and a normal resting API will have arterial stenosis and claudication which may be identified with an abnormal drop in ankle pressure after treadmill exercise. If the exercise test is normal, another diagnosis should be considered. In patients with abnormal resting or post-exercise ankle blood pressures, arteriography should be reserved for patients with threatened limb loss (ischemic rest pain or necrosis) or patients with disabling claudication of at least three months duration which has not responded to medical therapy. Balloon dilatation should be considered for patients with localized stenoses, particularly of the iliac arteries. Reconstructive vascular operations including endarterectomy or bypass procedures are indicated for patients with extensive stenoses or total occlusion of the major limb arteries. Medical therapy remains the mainstay of treatment for the majority of patients who will benefit from a program of regular graded exercise and abstinence from smoking.

VENOUS DISEASE

Acute Deep Vein Thrombosis

Clinical Examination. The history and physical examination of a patient with suspected deep vein thrombosis are erroneous approximately 50% of the time. Of the various clinical manifestations of deep vein thrombosis, only prominence of the superficial veins and cyanosis of the extremity are fairly consistent indicators of deep vein thrombosis. Most other symptoms and signs are nonspecific and may occur with a variety of other conditions. I feel that no patient should have a complete course of therapy for acute deep vein thrombosis without proof of the diagnosis by objective techniques.

Noninvasive techniques. Several noninvasive techniques permit improved accuracy of the diagnosis of deep vein thrombosis. I prefer the use of Doppler ultrasound which is the least expensive, the most versatile, and potentially the most accurate method to diagnose venous disease of the lower or upper extremities. Unfortunately the technique requires considerable experience to achieve maximal accuracy. The technique is subjective and is based upon sound pattern recognition of normal and abnormal venous flow velocity signals. Nevertheless, in experienced hands the accuracy of Doppler ultrasound in detecting or excluding deep vein thrombosis exceeds 90%. In my own experience and that of my technologist, Doppler ultrasound carries a sensitivity of 95% and a specificity of 85% in detection of deep vein thrombosis, including disease of the calf veins, popliteal, femoral or ileocaval venous system. The technique is also useful to screen for chronic venous insufficiency and superficial thrombophlebitis, as mentioned below.

Venous outflow plethysmography is somewhat more expensive but is more objective than Doppler ultrasound. The technique permits detection of venous thrombosis of the popliteal or more proximal veins with an accuracy exceeding 90%. Unfortunately the method does not permit accurate detection of isolated calf vein thrombi. Phleborheography is a pneumatic plethysmographic technique which permits accurate detection of major thrombosis of the deep venous system, including major calf veins. The technique is fairly expensive and somewhat time consuming. The radioactive fibrinogen uptake test permits sensitive detection of active deep vein thrombosis, particularly of the calf, popliteal and distal femoral veins. Unfortunately the method is rather expensive and time consuming and not useful for routine screening of patients with suspected acute deep vein thrombosis. Radioisotope venography permits rapid visualization of the major deep veins of the lower extremities from the popliteal

veins proximally. The method may be carried out at the time of perfusion lung scanning if the radioisotope is injected in the lower extremities instead of the arms. One advantage of the technique is that it is not associated with pain or the risk of thrombosis, unlike conventional venography. However, the resolution is inferior to that of venography and the technique does not permit the detection of isolated calf vein thrombi.

Venography. The standard for diagnosis for deep vein thrombosis is contrast venography. The technique involves injection of contrast media in the veins of the lower extremity. The injection is somewhat painful and carries a small risk of deep vein thrombosis or contrast allergy. Although more expensive than other techniques, this test should be considered in any patient with suspected deep vein thrombosis if other diagnostic methods are unavailable or are equivocal.

Clinical Management. Any patient suspected of having deep vein thrombosis should initially receive intravenous heparin unless this is contraindicated. I would next recommend a noninvasive diagnostic study of such as available. If the study is unequivocally normal, the patient should be investigated for another cause of these symptoms and the heparin should be discontinued. If the patient is suspected of having isolated deep vein thrombosis, a venogram may be necessary to clarify the diagnosis unless a test sensitive to calf venous disease, such as Doppler ultrasound, is available. If the noninvasive study is unequivocally abnormal, the patient may be treated for deep vein thrombosis unless another condition exists that could lead to a false positive noninvasive study, such as sublacial hematoma, trauma, ruptured Baker's cyst, or malignancy. Such conditions may lead to extrinsic obstruction of the venous system with a falsely positive noninvasive study. Venography is reserved for patients with an equivocal noninvasive examination or a condition mentioned above that may lead to false positive or negative noninvasive diagnoses.

If the patient proves to have acute deep vein thrombosis, heparin is indicated for seven to ten days followed by a three to six month course of oral anticoagulation with sodium warfarin. If bleeding complications develop or if the patient has an absolute contraindication to anticoagulation, insertion of a Greenfield filter in the inferior vena cava should be considered. Occasional patients with isolated deep vein thrombosis and a contraindication to heparin therapy may be followed expectantly with repeated noninvasive studies, and a caval filter may be reserved for the small numbers of patients (approximately 20%) in whom thrombosis extends above the level of the knee.

Recurrent Deep Vein Thrombosis. Patients with suspected deep vein thrombosis must be distinguished from those with post-thrombotic sequellae (chronic venous insufficiency) or patients with other conditions mimiking chronic venous disease. The clinician must differentiate such patients by first establishing the presence of venous disease and second by proving the presence of active venous thrombosis in patients with venous abnormalities. Doppler ultrasound, plethysmography or radionuclide venography are useful to define the presence or absence of venous disease. If the noninvasive study is normal, the patient should be evaluated for some other condition mimiking venous disease. If the Doppler or plethysmographic study suggests patent deep veins but incompetent venous valves, the patient should be treated for chronic venous insufficiency by such measures as elastic support stockings or leg elevation. If the noninvasive studies suggest deep venous obstruction, the presence or absence of active thrombosis must be established by the radioactive fibrinogen uptake test or by venography. I prefer the latter study because of the expense and time necessary to perform an I-125 fibrinogen uptake test. If the venogram shows a fresh clot outlined by contrast material, the patient should be treated for recurrent active thrombosis. If the venogram shows only chronic obstructive venous disease, the patient may be treated for the post-thrombotic (chronic venous stasis) syndrome using elastic stockings and leg elevation, without the need for anticoagulant therapy.

Post-Thrombotic Syndrome. Patients with leg swelling, pain, chronic stasis dermatitis with pigmentation and possible ulceration, are usually diagnosed by bedside clinical examination. However, these symptoms may be mimiked by such conditions as contact dermatitis, chronic congestive heart failure, lymphedema, or other conditions of the skin and subcutaneous tissue. Noninvasive diagnostic studies are useful to define the presence or absence of chronic venous disease. Doppler ultrasound or plethysmography, particularly, photophethysmography of the strain gauge technique, may define the presence or absence of

deep venous obstruction or valvular incompetence. If Doppler ultrasound or plethysmography suggests normal veins, the patient should be evaluated for another disorder mimicking chronic venous insufficiency. If the deep veins are patent but there is valvular incompetence, the patient may be treated with elastic support stockings. Rarely such patients may benefit from venous reconstructive procedures such as valvuloplasty or transposition of venous valve segments with competent valves. If the noninvasive studies suggest chronic venous occlusion, the patients may benefit from venous bypass procedures such as a femoro-femoral or femoro-popliteal saphenous vein graft. These operative procedures remain experimental and are rarely indicated for patients with chronic venous insufficiency.

Varicose Veins. Patients with varicose veins are evident by clinical examination. However, the physician must distinguish between primary varicose veins associated with isolated superficial venous valvular incompetence and secondary varicose veins associated with concomitant deep venous disease. Doppler ultrasound or plethysmography may be carried out to document the presence or absence of deep venous abnormalities. If the superficial veins are abnormal and the deep veins are normal, the patient should be considered to have primary varicose veins. Such patients can benefit from elastic support stockings, although stripping of the varices may be advisable if there is a significant cosmetic disorder or if the patient suffers the uncommon complications of superficial thrombophlebitis or bleeding from the varices. Patients with concomitant deep venous disease must be treated in a manner similar to patients with the post-thrombotic venous stasis syndrome. Such patients rarely benefit from isolated stripping of superficial varicose veins.

Superficial Thrombophlebitis. Patients with inflammatory changes along the course of the superficial veins are usually treated for superficial thrombophlebitis. However, such patients may be difficult to distinguish from individuals with lymphangitis or cellulitis, because the lymphatics parallel the saphenous veins. Doppler ultrasound is the most useful technique to identify the presence or absence of superficial thrombophlebitis. If the Doppler examination reveals patent superficial veins, the patient should be treated for lymphangitis or cellulitis, which is usually caused by beta-hemolytic streptococci. If the superficial veins are obstructed, the clinician should complete a Doppler examination to identify the presence or absence of deep vein thrombosis. If the latter is present, the patient should be treated with anticoagulants. If the patient has isolated superficial thrombophlebitis, the management depends upon the location of the phlebitic process. If the inflammatory process extends near the sapheno-femoral or sapheno-popliteal junction, ligation of the superficial veins should be considered to prevent extension of the process into the deep venous system. If the superficial thrombophelbitis does not approach the deep venous system, the patient should be treated with anti-inflammatory agents.

Pulmonary Embolism. The clinical diagnostic accuracy of pulmonary embolism is as fallible as the clinical diagnosis for deep vein thrombosis. Patients with suspected pulmonary embolus may have other conditions such as atelectasis, pneumonia, chronic pulmonary disease, congestive heart failure, or other pulmonary conditions mimiking pulmonary embolism. Such conditions also result in falsely positive perfusion lung scans. The physician should have a systematic diagnostic plan to evaluate these patients. The patient is initially screened with a perfusion lung scan because if the study is normal the diagnosis of significant pulmonary embolus can be excluded. If the perfusion lung scan is abnormal a ventilation scan may be obtained to increase the specificity of the lung scan. Unfortunately, both perfusion and ventilation lung scans are frequently falsely positive. For this reason a patient with an abnormal radionuclide study should undergo noninvasive evaluation for the presence of deep vein thrombosis which may predispose to pulmonary embolus. If the deep venous system is abnormal, the patient can be safely treated for pulmonary embolus. If the noninvasive study is normal, a pulmonary arteriogram should be considered to establish the diagnosis. In my experience, at least 50% of the patients with an abnormal lung scan and a normal noninvasive study of the leg veins prove to have a normal pulmonary arteriogram. I feel that the cost and risk of this invasive study is less than the expense and morbitidy of unnecessary treatment for a falsely positive diagnosis of pulmonary embolism. If the patient has massive pulmonary embolism and persistent shock despite maximal medical therapy, a pulmonary embolectomy should be

considered either by suction catheter technique or by open pulmonary embolectomy or cardiopulmonary bypass. Most patients are candidates for anticoagulant therapy. Occasionally patients may benefit from fibrinolytic therapy although the therapeutic value of this procedure in routine patients remains to be documented. Certainly fibrinolytic therapy should be considered in a patient with a massive pulmonary embolus. Furthermore this therapy may improve the late cardiopulmonary function of patients suffering from pulmonary embolism. Patients who cannot be treated with heparin therapy should be considered for interruption of the inferior vena cava, preferably using a Greenfield filter. Caval filtration should also be considered for patients who suffer proven recurrent pulmonary emboli despite adequate heparin therapy. Finally patients completing a course of heparin therapy should undergo secondary prophylaxis with oral anticoagulants for a period of three to six months to prevent recurrent deep vein thrombosis and pulmonary embolism.

CEREBROVASCULAR DISEASE

Patients who are at risk of stroke often have extracranial carotid artery occlusive disease which may be detectable by clinical examination, noninvasive diagnostic techniques and angiography. Unfortunately the only clinical findings suggestive of extracranial carotid disease is the presence or absence of a cervical bruit and the occasional absence of carotid pulses. However, many patients with a cervical bruit do not have significant internal carotid artery occlusive disease. Furthermore many patients with significant internal artery stenosis or occlusion have no audible cervical bruit. Thus, the role of noninvasive diagnostic techniques assumes increasing importance to increase the physician's diagnostic acumen in detecting extracranial artery disease.

Noninvasive Diagnostic Techniques

Indirect Techniques. Carotid artery obstruction may be detectable by noting abnormalities of flow or pressure in branches of the ophthalmic artery, the first major intracranial branch of the internal carotid artery. Both Doppler ultrasound and ocular plethysmography are useful techniques to screen for advanced carotid occlusive disease. Although such techniques are relatively simple and inexpensive, they suffer the limitations of being insensitive to nonobstructive carotid plaques which may lead to embolic stroke and abnormal studies do not differentiate between operable carotid stenosis and inoperable carotid occlusion. For this reason increasing emphasis has been placed on direct carotid screening studies.

Direct Techniques. Carotid phonoangiography (CPA) permits graphic recording of audible carotid bruits. This technique is similar to phonocardiography and the method permits objective documentation of the presence and location of a cervical bruit. However, the technique is not significantly more accurate than the use of a stethescope for cervical auscultation.

Carotid Doppler examination permits audible or graphic detection of normal and abnormal flow velocities in the common carotid artery and its branches. This technique is much more sensitive than indirect carotid screening techniques. The accuracy is further enhanced by the use of real-time sound spectrum analysis of the Doppler signals. In my experience, this method has detected carotid stensoses of 40% diameter reduction or greater with an accuracy exceeding 90% and the method has the ability to distinguish between operable carotid stenoses and inoperable carotid occlusion.

The most sophisticated method of direct carotid screening is the use of ultrasonic imaging of the carotid artery. These techniques include continuous-wave or pulsed Doppler imaging, real-time B-mode ultrasonic imaging, or combined echo-Doppler (duplex) scanning. These methods are the most sensitive techniques to detect extracranial carotid occlusive disease and to distinguish stenoses from occlusions. Although the techniques are more expensive and difficult to perform, these methods are assuming increasing importance in screening patients for operable carotid occlusive disease.

Angiography

Patients with suspected operable carotid occlusive disease should undergo arteriography to morphologically visualize the extracranial and intracranial cerebrovascular systems. Recent advances in digital subtraction angiography have permitted intravenous injection of contrast material with imaging of major extracranial and intracranial vessels with details suitable for planning operative intervention. However the technique provides less resolution of images than does conventional intra-arterial contrast arteriography. Nevertheless in selected patients intravenous digi-

tal subtraction angiography provides adequate visualization of the extracranial carotid circulation and less risk and cost to the patient.

CLINICAL MANAGEMENT

Patients who have suffered transient ischemic attacks or who have recovered from stroke are candidates for noninvasive indirect and direct carotid screening. If these studies suggest significant extracranial carotid stenosis, intravenous digital subtraction angiography is recommended and, if confirmatory of a stenosis, permits carotid endarterectomy without further diagnostic study. If, however, the noninvasive screening techniques reveal insignificant stenosis, a normal carotid or total occlusion of the vessel, conventional contrast arteriography is suggested to establish the presence or absence of operable carotid disease. Using this approach the author has found few instances in which conventional arteriography must be carried out for inadequate venous digital subtraction studies.

Asymptomatic Carotid Disease

Patients with asymptomatic carotid disease may present with an incidental bruit, angiographic evidence of disease contralateral to symptomatic disease, or carotid bruit or disease in a patient prior to major operation. These three categories of patients are appropriate for screening with noninvasive diagnostic techniques. If diagnostic studies suggest a significant internal artery stenosis, operative intervention may be carried out, particularly in patients who have an incomplete circle of Willis as established by oculopneumoplethysmography (OPG) during temporary carotid compression. Patients with asymptomatic carotid disease and an intact circle of Willis may be safely followed with operative intervention only if symptoms of transient ischemic attack (TIA) develop. However, the physician should make a serious effort to instruct the patient about the significance and characteristics of TIAs. I believe that most patients who suffer stroke suffer premonitory TIAs but often fail to recognize the symptoms which may also be overlooked by the patient's physician. Patients with asymptomatic carotid disease contralateral to symptomatic disease visualized by arteriography may be safely followed with operative intervention only for the development of TIAs on the asymptomatic side. Patients who are candidates for major operation, particularly coronary or peripheral vascular procedures, may be screened for significant carotid disease using noninvasive techniques. Such patients do not require prophylactic carotid endarterectomy prior to the intended major cardiovascular operation. However, these patients are at significant risk of perioperative and late death, particularly from coronary artery disease. Furthermore these patients may develop neurologic symptoms in the late postoperative period and must be instructed to recognize and report any symptoms of TIA. In my experience, the incidence of future TIA is approximately 20% over the course of several years, but less than 5% of patients suffer stroke without antecedant TIA. On the basis of my experience, I do not recommend prophylactic carotid endarterectomy for such patients unless future symptoms develop.

Conclusions

Over the past decade, several noninvasive diagnostic techniques have been developed to improve the clinician's ability to detect and manage patients with suspected peripheral vascular disease. Although peripheral arterial occlusive disease may be detected at the bedside, both venous and cerebrovascular disease may occur in the absence of clinical symptoms and many patients with symptoms suggestive of such disease may have another disorder mimiking a vascular disorder. The physician who employs noninvasive diagnostic techniques intelligently may more accurately diagnose and treat patients with peripheral vascular disease. Nevertheless a physician should avoid indiscriminate use of these new technologies. Like other advances in medicine, noninvasive peripheral vascular techniques assist, but do not substitute for, the physician's clinical approach to patient care.





EDITORIAL

Parathyroid Hormones

Alfred Kahn, Jr., M.D.

There have been a number of interesting articles in the recent medical literature on parathyroid function and parathyroid hormones. One of the better articles is an editorial by A. E. Broadus and H. Rasmussen entitled "Clinical Investigation of Parathyroid Function" published in *The American Journal of Medicine* (Volume 70, page 475, March, 1981). The authors have recommended four tests as being particularly useful. The appropriate test depends on the nature of the case. They recommend the renal phosphate clearance inasmuch as the parathyroid hormone regulates phosphate clearance—not phosphate excretion rate. Inasmuch as phosphate has a maximal rate of re-absorption—in the proximal tubule —a test was devised to determine the ratio of the maximum tubular re-absorption to the glomerular filtration. Broadus and Rasmussen describe this ratio as a so-called "set point" which determines the serum phosphorous concentration. It is recommended as a good test in patients with mild disorders of renal function, but it is not recommended in cases who have serious disorders of renal function. The radioinumunoassay for parathyroid hormone is a widely used test, but is said to vary a good deal from laboratory to laboratory because of difficulty in getting homologous antiserum, because not all circulating parathyroid hormone has the same immune pattern, and lastly there has been some lack of standard from one laboratory to another. The authors point out that there are multiple forms and fragments of parathyroid hormone and it has been discovered that some of these are biologically inactive and different fragments have different half-life times, etc. Broadus and Rasmussen say that the most reliable means of testing is using the carboxy-terminal antiserums which represent part of the parathyroid hormone rather than the entire hormone. The readers are cautioned not to try and compare the arithmatic results of one laboratory with another. Another recommended test is the measurement of nephrogenous cyclic adenosine monophosphate and total urinary cyclic adenosine monophosphate. Parathyroid hormone has been shown to activate the cyclic adenosine monophosphate system—and thus tests of the cyclic adenosine monophosphate can reflect the amount of parathyroid function. The authors state that there are two sources of origin of cyclic adenosine monophosphate in the urine: They derived the simple filtration and a second type derived from synthesis in the kidney. They further point out that the filtered cyclic adenosine monophosphate tends to stay the same and it is the nephrogenous cyclic adenosine monophosphate that varies greatly. Saying this in another manner, it is the level of nephrogenous cyclic adenosine monophosphate which should be used in the bioassay for parathyroid hormone. This test is recommended as being a very sensitive test for parathyroid suppression examinations—as the oral calcium tolerance test. It is also recommended as a useful diagnostic tool to determine the presence of pseudo hypoparathyroidism, in studying patients with neoplastic hyperparathyroid disease, and in monitoring post-operative patients who are suspected of having altered parathyroid function. Some malignant disease can release a parathyroid-like hormone which can affect the nephrogenous cyclic adenosine monophosphate and thus the test must be used with caution in the presence of neoplastic disease. Lastly, Broadus and Rasmussen recommend the cytochemical bioassay for parathyroid hormone. This is accomplished by "the cytochemical bioassay for parathyroid hormone utilizing the stimulation of Glucose IV, phosphate dehydrogenase activity in distal tubular cells of the guinea pig as the end point of parathyroid

activity." The method is said to be an extremely sensitive technique, but is difficult to perform.

Pseudo hypoparathyroidism has been a matter of interest since it was first classified as a specific disorder by Dr. Fuller Allbright. It is characterized by the apparent resistance of target organs when exposed to parathyroid hormone. Pseudo hypoparathyroidism has been reported in the recent past by Farfel, Brickman, Kaslow, Brothers, and Bourne in an article entitled "Defect of Receptor-Cyclase Coupling Protein in Pseudo Hypoparathyroidism" (*New England Journal of Medicine,* Volume 303, page 237, July 31, 1980). They point out in their article the known fact that there are several types of pseudo hypoparathyroidism; Type I patients do not excrete cyclic adenosine monophosphate after being challenged by parathyroid hormone; Type II pseudo hypoparathyroidism has been characterized as that type of case in which the "resistance to the phosphaturic effect of parathyroid hormone is associated with normal or elevated urinary levels of cyclic adenosine monophosphate." In Farfel et al.'s study they were able to determine that there is a protein component of adenylate cyclase that is required for stimulation of cyclic adenosine monophosphate by hormones. They state that this protein component may couple the membrane receptor to cyclase. In the authors' studies, this specific protein component, which they call the N component, was decreased in half of their patients who had pseudo hypoparathyroidism Type I. It was not decreased in pseudo hypoparathyroidism Type II. Thus, it becomes a means of identifying many cases of pseudo hypoparathyroidism Type I—but not all of them; it definitely does not identify pseudo hypoparathyroidism Type II.

One of the interesting aspects of hormone metabolism which puzzles many practicing physicians is—what happens to the circulating hormone? It is pretty obvious that the parathyroid hormones come from the parathyroid gland, but the question which might naturally arise is what ultimately causes its disappearance; in short, how is it metabolized? Hruska, Korkor, Martin, and Slatopolsky address this subject in an article entitled "Peripheral Metabolism of Intact Parathyroid Hormone" (*Journal of Clinical Investigation,* Volume 67, page 885, March, 1981). The introduction to their article is an excellent general summary of the current knowledge of the peripheral metabolism of parathyroid hormone in which they describe the fact that the circulating parathyroid hormone consists of a non-homogenous mixture of intact hormone and hormone fragments. They also report that different target organs remove different forms of parathyroid hormone from the circulation; it is said that the liver removes intact parathyroid hormone. In contrast to this, the liver is said to have no function in removing fragments of parathyroid hormone. The kidney is reported to remove both the intact parathyroid hormone and fragments of parathyroid hormone by glomerular filtration and also the sites other than the glomerulus. Hruska et al. state that intact parathyroid hormone is removed very rapidly from the circulation—two to five minutes half-life in the circulation. This rapid removal of the intact parathyroid hormone is largely accompanied through the liver and the kidney. In the presence of chronic renal failure, there is a decrease in both the kidney and liver uptake of parathyroid hormone. Although not discussed in this article, this begs the point—does excessive parathyroid hormone produce some of the signs and symptoms of chronic renal failure as manifested in the uremic patient?

There are articles on the above question, one of which is by Goldstein, Chui, and Massry entitled "Effect of Parathyroid Hormone and Uremia on Peripheral Nerve Calcium and Motor Nerve Conduction Velocity (*Journal of Clinical Investigation,* Volume 62, page 88, July, 1978). It is a known fact that in the presence of uremia, humans manifest central and peripheral nervous system symptomatology. Goldstein et al. studied this problem. Their experimental work was on dogs —they used 36 subjects to test the theory that in the presence of uremia there would be more parathyroid hormone; this, in turn, would induce an excess calcium content in the brain and peripheral nerves; this, in turn, could be monitored by the electroencephalogram and the motor nerve conduction velocity measurements. They were able to demonstrate that uremia increased the calcium content in the sciatic nerve of their animal subjects and they felt that excess parathyroid hormone was the cause of this. When this occurred, there was a reduction in the motor nerve conduction velocity test. The authors acknowledged that the techniques used in their study could not positively prove the interlocking of each step between uremia and the prolongation. The evi-

dence, however, is certainly strong because if their animals had a parathyroidectomy prior to being made uremic, there was a rise in peripheral nerve calcium.

Another way of studying parathyroid hormone in the context of the inactivation of its physiologic effects—is reported in an article entitled "The Effect of Parathyroid Hormone on Erythropoiesis" by Meytes, Bogin, Ma, Dukes, and Massry (*Journal of Clinical Investigation,* Volume 67, page 1263, May, 1981). This article is of very little clinical interest because uremic patients, as discussed above, have an increased level of circulating parathyroid hormone and its fragments. Furthermore, uremic patients become anemic. The question addressed here is whether the parathyroid hormone or its fragments tend to inhibit erythropoiesis. The studies presented here indicate that the intact parathyroid hormone molecule does reduce erythropoiesis, but the end terminal fragment of parathyroid hormone did not inhibit erythropoiesis. Meytes et al. acknowledge that other effects of parathyroid hormone may account for some of the anemia also—induction of hemolysis, fibrosis of bone marrow, etc. Lastly, Meytes et al. state that although excessive intact parathyroid hormone can inhibit bone marrow, some of this inhibition can be blocked by the use of large doses of erythropoietin.

These studies on parathyroid hormone not alone provide insight into the function of hormone, but also give some insight into understanding some of the facets of uremia.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Frank Vinsonhaler, M.D.

Fred O. Henker, M.D.*



Dr. Vinsonhaler was born April 14, 1864, on a farm at Graham, Missouri. Upon the death of his mother at 16, Frank was sent to Northwest Normal School at Oregon, Missouri. Beginning his involvement in medicine, he attached himself to a Dr. W. P. Moore, reading medicine and working in his drug store. Next he entered Columbia University School of Medicine, graduating in 1885 after a frightening bout with ruptured appendix during his first year. Being rejected by the Navy because of rales in his chest, he tried a partnership in Blanchard, Iowa, did not like it, and moved to Westerville, Nebraska. Here he said he never knew a rest until he left for University of Vienna in December 1891 where he studied diseases of the nose and throat during the spring and summer terms of 1892 and then to the Royal Ophthalmic Hospital in London to study diseases of the eye during the winter of 1892-93. Upon his return to the United States, he practiced briefly in St. Louis and then, in 1894, on the invitation of Dr. T. E. Munell of Little Rock, he came as his partner at his office in the old Masonic Temple, then located at Fifth and Main Streets. He was also appointed to the Chair of Ophthalmology at the University of Arkansas School of Medicine, then at the north east corner of Second and Sherman Streets.

On February 9, 1898, Dr. Vinsonhaler married Nettie Biedelman and they became parents of four children: Marion, Frances, George and John. The family home was at 500 East Ninth Street. He served briefly during the Spanish American War and in World War I served at Camp Pike, the local military post and with the 109th Base Hospital at Vichy, France, attaining the rank of major.

In April, 1927, Dr. Morgan Smith, Dean of the medical school, offered that position to Dr. Vinsonhaler which he accepted on July 1, 1929. He invited Dr. K. W. Cosgrove of Detroit to join him in his office in the Urkhart Building on East Fifth between Main and Scott Streets to afford time for school administration in his office in the Old State House on Markham Street, where the freshman and sophomore years were conducted. His most noteworthy achievement was the procurement of a government loan for the construction of the medical school at Thirteenth and McAlmont Streets which was opened September 11, 1935. Much help was rendered by his close friend Senator Joseph T. Robinson. Relationships with the governor and legislature continued to be a struggle. He tendered his resignation effective June 30, 1939 and was replaced by Dr. Stuart P. Cromer.

A tremor had caused Dr. Vinsonhaler to give up his practice. He died in September, 1942, from diabetic coma and was buried beside his wife in Mt. Holly cemetery.

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MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

* * * *

Medicare Reform Movement Grows

Next year, Medicare spending for physician services will "become the third largest federal domestic program — exceeded only by Social Security and the Medicare hospital insurance program," according to a study for the Senate Committee on Aging.

About one-third of all Medicare expenditures—nearly $25 billion—will go for physician care and spending on the supplemental medical insurance (SMI) side of the program is expected to increase by 16.1% in 1984. If the projection holds up, SMI will be the "fastest growing of the major domestic programs."

These statistics are likely to be cited again and again in the months and years ahead as Congress struggles to reduce the federal deficit, put Medicare's hospital fund back on sound financial footing, and determine whether the program's prospective hospital pricing system should be extended to physicians.

On March 16, they were the backdrop for discussion of a wide range of potential changes in Medicare physician reimbursement offered primarily by academicians and groups representing the elderly. Chaired by Sen. John Heinz (R-PA), the discussion centered primarily on suggestions that Medicare move to negotiated fee schedules or extend the hospital diagnosis related groups (DRGs) to physicians.

The only representative of organized medicine to testify at the hearing—AMA Board member James S. Todd, M.D.—reported that the AMA has asked physicians to voluntarily freeze fees for all patients. The New Jersey surgeon argued that a physician DRG system "would give substantial economic incentives to provide minimal care" and observed that current policies of the Federal Trade Commission appear to mitigate against the use of negotiated fee schedules.

The committee paper, written by former Office of Management and Budget health official Lyn Etheridge, contends that current Medicare reimbursement policies have "created unintended inequities among primary care physicians and specialists, inpatient and outpatient care, urban and rural areas."

In addition, Etheridge believes Medicare's current customary, prevailing and reasonable payment mechanisms has "distorted incentives for appropriate medical care" by encouraging hospitalization and surgery and the adoption of "add-on technology." He notes that the number of procedures that can be separately billed to Medicare has tripled since the program's inception and that the number of bills submitted by physicians increased by about 220% in the 1970s.

Since Medicare will constitute about 18% of the average physician's income in 1985 and since the physician supply in the United States has risen by 70% since Medicare's inception, Etheridge concludes that reform of Medicare's physician payment system is possible and might be accompanied by "improvements" in the claims assignment process.

One option examined by Etheridge was the use of negotiated fee schedules—an approach that is being tried in the Massachusetts Medicaid program and that was endorsed in the Social Security Advisory Council's recommendations for Medicare. The negotiated fee approach is also favored by Princeton economist Uwe Reinhardt, Ph.D., who told the committee that any "workable reform must be structured around the preservation of the fee-for-service approach."

A researcher with the University of North Carolina, however, said he thinks it will be "difficult if not impossible for the government to control physician costs under the current fee-for-service reimbursement system." Thomas Rice cited his study of Denver physician reactions to a decline in Medicare reimbursement rates in 1977 as evidence that freezing physician reimbursement "is not effective" because physicians will "recoup lost income" by billing for "a greater number of services and for more highly-complex and costly" procedures.

In questioning, Sen. Heinz used Rice's predic-

tions to suggest to Dr. Todd that the AMA, in addition to asking physicians to freeze fees, should recommend that volume be held to its current level. Todd "rejected the concept that physicians will raise the volume of services to get around a freeze" and pointed out that AMA policy already makes it "clearly unethical" to increase volume by providing unnecessary services. Todd said that increased volume could in fact occur for quite legitimate reasons—including an increase in elderly patients and improved technology.

Todd also noted that much of the increase in claims volume cited in the Etheridge paper may stem from a shift from inpatient to outpatient care that could save Medicare money. Furthermore, he reported, FTC and Justice Department actions involving relative value scales have stymied the use of RVS and fee schedules by physicians.

At the same hearing, representatives of the National Council of Senior Citizens and American Association of Retired Persons (AARP) called for mandatory assignment of physicians claims for inpatient services.

In 1980, aged beneficiaries' liability from unassigned claims exceeded $1.3 billion or about 13% of total physicians' charges for the elderly that year, AARP President-elect Vita Ostrander told the committee. Beneficiaries now pay over "60% of the cost of physician care out of pocket," she added, and there is new evidence to show that some can no longer afford private insurance to supplement Medicare.

Ostrander added that "plans simply calling for participating physician agreements offer no assurance against a decline in the overall assignment acceptance rate." She called for adoption of a House proposal requiring the hospital to make affiliated physicians accept assignment.

AMA's Todd maintained that the current assignment option is "an important factor that has enabled physicians to treat Medicare patients in the same manner as other patients" because there is no difference "when it is time to submit bills for services."

Todd argued that much of the out-of-pocket costs Medicare beneficiaries face today are program copayments and insurance costs. He added that the bills that represent the greatest hardship for patients are also the most likely to be assigned.

Observing that a study by the Health Care Financing Administration has indicated that two-thirds of physicians, if confronted with an "all or nothing" system, would take no assignments, Todd opposed any major changes in the assignment option on grounds that it could "affect the access of Medicare patients to the physician of their choice." He called instead for "administrative modifications to the physician billing and payment process that could eliminate some of the paperwork "burden."

* * * *

Even More Mandatory Assignment Proposed

The most far-reaching proposal yet for requiring physicians to accept Medicare assignment was introduced in March by House Aging Committee Chairman Edward R. Roybal (D-CA) with the backing of two major organizations representing the elderly.

Roybal's proposal would require physicians who accept payment from Medicare to take all claims on assignment, thus prohibiting the physician from charging patients in excess of Medicare's fee allowances. As enforcement, the bill would require hospitals participating in Medicare to deny staff privileges to any physician who refused to sign agreements to assign all Medicare claims.

The bill, which was touted at a press conference alleging that physicians "overcharged" Medicare patients by $2.5 billion or $107 per Medicare patient last year, is backed by 11 senior citizens groups, including the American Association of Retired Persons and the National Council of Senior Citizens.

* * * *

New SHMOs Stalled By White House

White House budget office stalling on an experiment in financing long term care services has aroused the ire of some Congressmen and led to the introduction of legislation to put the project back on track.

Set up by Brandeis University, the expirement would combine health and social services under the auspices of groups called Social HMOs or SHMOs which would pool Medicare and Medicaid with private funds to pay for services.

Four SHMO sites had been selected and the project had received the blessing of private foundations that had donated about $4 million to the sites and of the Department of Health and Human Services which had agreed to participate in the demonstration.

The federal role was to come in the form of a waiver committing Medicare to pay the SHMOs

more than will be available to other HMOs treating Medicare beneficiaries. While other HMOs, under regulations that still have not been published, are to receive 95% of the average cost of providing fee for service care to Medicare patients in the area, the SHMOs were to receive 100%. In return, they would provide social services and limited long term care coverage not provided by the typical HMO. Medicare was also to share in the financial risk of the SHMOs in their first two years.

Two years of negotiations had been completed and two sites—the Kaiser plan in Portland and ElderPlan in Brooklyn—were set to begin marketing in January. Brooklyn had hired staff and had a $60,000 monthly payroll to meet.

The other sites—a joint effort by the Ebenezer Society and Group Health in Minneapolis and the Senior Care Action Network (SCAN) in Long Beach, CA—were to begin marketing this spring or summer.

Then in late December, to the surprise of the Brandeis project officers, the White House Office of Management and Budget entered the picture. OMB officially has no say so over the Medicare waiver process but must approve the necessary forms to evaluate demonstrations and waivers. OMB has questioned other Medicare waivers, including those to states rate setting programs exempted from Medicare's diagnosis related groups (DRG) payment system. Brandeis staff say they believe their SHMO project got caught up in a general battle between OMB and HHS over where the final waiver authority lies.

At the end of March, the SHMO project was back at the Health Care Financing Administration which was responding to a detailed list of questions ranging from some the department has dealt with before—what will happen to the Medicare beneficiaries at the conclusion of the demonstration?—to some very specific ones regarding the potential cost of the project.

The latter issue, according to HCFA staff, appears to be the sticking point. Recalling experience with the Medicare hospice benefit, the Budgeteers are reluctant to test a politically-popular concept they fear Congress might expand to all Medicare beneficiaries before the demonstration of its cost implications is completed.

The SHMO concept has gained support among some important legislators, including Sen. David Durenberger (R-MN) who heads the Senate Finance health subcommittee. Durenberger, who has one of the SHMO sites in his state, was instrumental in adding a provision to the Senate Finance Committee's budget deficit package instructing HHS Secretary Margaret Heckler to go ahead with the SHMO demonstration.

* * * *

Organ Transplant Bills Move In Congress

Two organ transplant bills, both designed to ease organ procurement, worked their way through the House and Senate this March.

The more conservative bill, sponsored by Sen. Orrin Hatch (R-UT), would create a task force to review public and private efforts needed to set up an organ procurement system. The recommendations of the task force would not be mandated, but handed over to the President and two House and Senate committees for review.

It also permits the Department of Health and Human Services, if desired, to establish a national organ procurement and transplantation registry. Action is not required, explain supporters, because there is no consensus on the need for a federally-run procurement system.

The more radical bill, sponsored by Rep. Albert Gore (D-TN), would authorize grants to improve organ procurement, including participation in a new national transplantation network. It would also require HHS to set up a computerized national transplantation network to help match donors and recipients.

Most controversial, however, is a provision that gives HHS authority to ration the delivery of services to all Medicare recipients. Specifically, Title II of the House bill would allow the Secretary to determine for any "health care technology or procedure" paid for through the Medicare program, those Medicare beneficiaries who would be eligible for such services, those medical facilities in which the services can be provided, and the conditions under which the services would be provided.

While the Hatch bill has won the unanimous support of a Senate committee and seems headed for a warm reception on the Senate floor, the Gore bill faces a tougher fight in the House.

* * * *

Separate Department of Health Urged By AMA

Simply removing the Social Security Administration from the Department of Health and Human Services and setting it up as an independent agency will not "satisfactorily deal with

the organizational problems" of HHS, James Davis, M.D., told a panel studying such a move.

Dr. Davis, Vice Speaker of the AMA House of Delegates, testified before the congressional panel on Social Security organization. The panel was directed in the 1983 Social Security Amendments to do an implementation study for the establishment of an independent Social Security agency.

Dr. Davis recommended that the Health Care Financing Administration, which administers Medicare and Medicaid, not be transferred away from other health functions within the existing HHS and said that ideally, a separate department of health should be created with a physician as Secretary.

As a transition to a separate department of health, he suggested that "a position of Under Secretary of Health could be created to direct all of the health functions" of HHS.

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Congress Grapples With Capital Costs Under DRGs

Congressional efforts to hold down prices in Medicare's diagnosis related groups (DRGs) payment system will have far more impact on hospitals' access to the financial markets than any new policy specifically dealing with the treatment of capital under DRGs, hospital officials say.

Their comments came before a hearing of the Senate Finance health subcommittee which is gathering background before coming up with a specific proposal later this year for bringing capital into the DRG system. The law specifies that capital costs are to remain under cost reimbursement until October 1, 1986.

Sometime before October 1, 1984, the Department of Health and Human Services must develop a policy on the treatment of capital under DRGs. Various interest groups also are beginning to develop their own proposals which range from an across-the-board percentage DRG add-ons to continuation of all or part of the current cost-based method of paying for capital.

Medicare pays only a small portion of the total hospital capital cost in the United States but its policies influence hospitals' access to other capital markets. In addition, it is estimated that every dollar invested in capital generates 22 cents in additional operating expenses for the institution.

In fiscal 1984, Medicare will pay inpatient capital-related costs of about $3 billion, HHS estimates. Capital expenditures will thus represent about 7.4% of Medicare payments for inpatient hospital operating costs.

Capital costs vary widely among hospitals, however, with about one-fourth having depreciation and interest costs less than 4% of operating costs while one-fifth have ratios between 10% and 20%. In general, hospitals with lower ratios of capital to operating costs include government-owned, teaching, and New England hospitals as well as those with heavy Medicaid loads. Those with higher capital to operating cost ratios include for-profits and those which have changed bed size in the last five years.

A number of factors influence a hospital's access to capital, hospital officials from the major hospital associations, told the Senators. They include "size and name recognition," medical staff composition, market penetration and the percentage of a hospital's patients who are Medicare and Medicaid beneficiaries. Since the bottom line is whether or not the hospital generates a surplus, Federation of American Hospitals Executive Director Michael Bromberg added, "decisions on ratcheting down on limiting DRG prices will have much more impact than anything we do on the capital side."

* * * *

Specialists' Hospital Contract Legal, Court Says

An exclusive arrangement between a metropolitan hospital and a specialty group violates no anti-trust laws, the Supreme Court ruled in March in a case brought by a Louisiana anesthesiologist.

Although the arrangement may frustrate outside anesthesiologists and inconvenience surgeons, it does not restrain competition because other hospitals — without such an arrangement — are nearby, the justices agreed in a 9-0 decision.

East Jefferson General Hospital in Metairie, LA, has a contract with Roux and Associates to perform all anesthesiological services for its patients.

The arrangement was challenged by Edwin Hyde, M.D., who was barred from admission to the hospital's staff. He charged the hospital with violation of the Sherman Anti-Trust Act.

In late 1982 an Appeals Court ruling found in Dr. Hyde's favor, saying that the arrangement was anti-competitive because patients in the hospital were "compelled" to use the hospital's anesthesiology services.

But the Supreme Court overturned the decision, finding that patients are not "compelled" to go to

East Jefferson General Hospital; in fact, 70% of the patients residing in Jefferson Parrish enter one of the 20 other hospitals in the area.

* * * *

FDA Sets Stronger Labeling for Accutane

The FDA in March agreed to revised labeling for the Roche Laboratories' anti-acne drug Accutane. Birth defects and spontaneous abortions have occurred in association with the use of this drug and the new labeling strengthens the warnings that the drug should not be used in pregnant women. FDA is requiring Roche to advise all physicians of the new labeling which Roche says they are now doing. FDA also issued a warning that women should not take Accutane unless they are using some form of birth control.

A consensus development conference recommended to the FDA that they take a critical look at analgesic compounds because there is evidence that when taken in large doses over prolonged periods they cause serious kidney damage. The word from FDA, however, is that they aren't likely to take any action in the foreseeable future.

* * * *

Heckler Launches Anti-Cancer Campaign

Department of Health and Human Services Secretary Margaret M. Heckler launched a new cancer prevention campaign in March, saying that an estimated 80% of cancer cases are linked to lifestyle and environmental factors. "Too few Americans realize the simple truth that cancer is caused by the way we live, and its risks can be reduced by the choices we make," she said. The public's perceptions about cancer have failed to keep pace with new medical knowledge, she explained.

Heckler's campaign represents a significant turn-around for federal policy. Less than five years ago, then-HEW Secretary Joseph A. Califano resigned in part due to lack of support for his anti-smoking crusade. The current Agriculture Secretary John R. Block once said that he didn't think the USDA should be telling consumers how to eat.

By the year 2000, the new campaign hopes to have saved 75,000 lives a year through reduced smoking and 20,000 lives a year through improved diet. An additional 105,000 lives are expected to be saved through improved use of cancer treatments.

An estimated 35% of all cancer deaths can be traced to low-fiber, high-fat diets; 30% to smoking; 3% to alcohol; 5% to virus; 4% to occupational exposure to toxics; 3% to excess sunlight; 2% to environmental pollution and 1% or less to food additives, Heckler said.

The $686,000 campaign will kick off in June, first with TV commercials and then with pamphlets for persons at high risk.

* * * *

HHS To Cut Its Staff

HHS Secretary Margaret Heckler, following up on the recommendations of the Grace Commission, plans to abolish 1,264 jobs in her office. Fifty-six positions would be abolished in the Office of the Assistant Secretary for Planning and Evaluation — a move that appears to give the White House Office of Policy Development a larger say in health policy.

* * * *

Computer Crime-Stoppers Bill

Electronic "breaking and entering," such as that which occurred last summer at New York's Memorial Sloan Kettering Cancer Center, is not illegal under current law.

Legislation introduced in March by Rep. Ron Wyden (D-OR) would make unauthorized computer access to medical records a federal crime. The bill (H.R. 4954) is co-sponsored by Rep. Henry Waxman (D-CA) and is expected to get serious attention by the House Energy and Commerce Committee where both Wyden and Waxman are members.

The bill sets up a three-tiered penalty system: persons who gain access to records but do not tamper with them would get a maximum penalty of six months in jail or a $1,000 fine; persons who tamper with records but do not cause injury would get up to one year in jail or a $5,000 fine; and persons who tamper with records and cause injury could get up to five years in jail or a $25,000 fine.

* * * *

Senate Unit Trims Medicare, Medicaid

A month of haggling and horsetrading in the Senate Finance Committee produced a deficit-trimming package that includes about $10 billion in Medicare and Medicaid cuts over the next four years.

Premium increases for Medicare beneficiaries and physician fee limits were scaled down somewhat from earlier versions of the proposal. The changes appeared to come at the expense of hospitals.

Finance's $74 billion deficit downpayment over

four years would raise $48 billion in revenues largely through tax changes and reduce spending by $26 billion.

The physician fee proposal would produce an anticipated four-year savings of $1.5 billion. It would freeze customary and prevailing fee limits for all physicians for one year beginning July 1, 1984. A freeze on prevailing fees only would continue for a second year for physicians who did not elect to become Medicare "participating" physicians agreeing to assign all claims.

Beneficiaries have been given some relief under the final proposal. A plan that would have gradually increased the Medicare Part B premium to 35% of Part B costs was replaced with a provision holding the Part B premium to 25% of costs.

The committee more than doubled its earlier cuts in Medicare payments to hospitals. In its final form, the Finance measure holds increases in the hospital specific portion of Medicare rates to the market basket increase minus ½%. The national and regional portion will be permitted to rise by the market basket plus ½%.

Other provisions would:

- ★ Pay independent laboratories and physicians offices 60% and hospital labs 62% of prevailing charges for lab tests.
- ★ Round payments for Part B claims down to the next lowest dollar.
- ★ Require HHS to study the reasonableness of Part A payments for pacemaker implants and set up a pacemaker registry in the FDA.
- ★ Require the establishment after July 1, 1984, of separate reimbursement limits for hospital-based and free-standing skilled nursing facilities. Limits would also vary according to whether the SNF was rural or urban.
- ★ Disallow the revaluation of hospital assets acquired in fiscal 1985 and thereafter, thereby limiting the amount of capital related costs a new owner can claim for Medicare reimbursement purposes.
- ★ Provide money from the Medicare trust funds to keep professional standards review organizations (PSROs) operating until they are replaced by peer review organizations (PROs).
- ★ Delay the date by which all hospitals must contract with a PRO and after which intermediary PROs are permitted.

* * * *

Government Wants Reconsideration On Baby Jane Doe Records

Rebuffed by a three-judge panel of the U. S. Court of Appeals, the Reagan Administration has asked for a full panel of judges to reconsider a recent Baby Jane Doe decision refusing to turn over hospital records to the government.

Should the Administration's request be rejected, the case may move on to the U. S. Supreme Court.

Meanwhile, the AMA and several other hospital and medical groups have independently filed suit against HHS Secretary Margaret Heckler to overturn the final Baby Doe regulations which went into effect in February. The suit was not brought in Washington, but in the U. S. District Court of New York where the Baby Jane case was originally filed.

* * * *

Hospital Mergers Studies

The major incentive in a recent trend toward hospital mergers and acquisitions is probably new tax advantages rather than the increased Medicare reimbursement for capital that occurs upon a change in ownership, Congressional Budget Office official told two House Ways and Means subcommittees recently.

Nevertheless, Nancy Gordon predicted, disallowing a revaluation of capital costs and assets following ownership changes could save Medicare and Medicaid $830 million over the next five years.

The hearing stems from a General Accounting Office report alleging that revaluation following the Hospital Corporation of America's acquisition of Hospital Affiliates International increased overall capital costs at the institutions by about $55 million, an unspecified portion of which was picked up by Medicare.

The Senate Finance Committee subsequently included in its budget deficit reduction package a provision disallowing revaluation in acquisition and mergers after October 1, 1984. Ways and Means member Rep. Willis Gradison, Jr. (R-OH), plans to introduce similar legislation in the House.

* * * *

NIH Panel Warning On Analgesics

Taken separately, aspirin and acetaminophen can provide fast, safe pain relief. Taken together over time, they can cause kidney disease and chronic renal failure, according to a National In-

stitutes of Health conference panel held in March.

Patients should be warned about the dangers of sustained use of combinations of antipyretic analgesics. Furthermore, serious consideration should be given to withdrawing these combination drugs—over-the-counter remedies such as Anacin and Vanquish—from the market, they said.

Preparations containing a single analgesic agent do not appear similarly harmful, they said. Rather it is the combination of ingredients which appear to produce a unique almost synergistic, type of toxicity.

Researchers suspect an interaction between the two components. Acetaminophen causes tissue injury when it converts to toxic metabolities; however, these metabolites alone are rarely cause for concern. Aspirin or other salicylates enhance this toxicity, however, by lowering levels of the protective substance glutathione.

Acetaminophen and aspirin both tend to concentrate in the kidney's papilla. Because they also inhibit prostaglandin synthesis and reduce medullary blood flow, they may enhance papillary damage.

Problems appear to develop in patients who take about three kilograms of combination analgesics over a three-year period, or an average of 10 tablets a day for three years. The inclusion of stimulant drugs such as caffeine encourage long-term habitual use, the panel said.

* * * *

No Relief for DRGs

A provision that would have slowed the phase-in of Medicare's diagnosis-related groups pricing system died an early death in Congress in March when the House Ways and Means Committee abruptly set aside consideration of the measure that had been approved by its health subcommittee.

DRGs are to be phased in over three years and in the initial phase, rates are to be based 75% on hospital specific rates and 25% on a federal rate. The subcommittee provision would have extended the period of time in which hospitals remained in this first phase.

The hospital industry was badly split over the issue, however, with for-profit and southern hospitals opposing the delay while the American Hospital Association and Catholic hospitals supported it.

A new move is afoot to permit a hospital to appeal to Medicare Provider Reimbursement Review Boards its designation as a rural or urban hospital, its area wage index or its census region assignment. The new effort appears to have support from all segments of the industry and may not be opposed by the Administration which had argued against the delay in the DRG phase-in.

* * * *

Heroin Again Considered for Cancer

The heroin controversy, quiet for the past three years, once again created a stir on Capitol Hill. This time, unlike before, legalization efforts have the support of more than 40 Congressmen and a variety of physicians.

A bill, introduced by Rep. Henry Waxman (D-CA) and cleared by his Energy and Commerce Subcommittee on Health in March, would establish a four-year program which would make heroin available to physicians through qualified pharmacies. It would require intravenous administration of the drug, and restrict use to cancer patients with intractable pain.

No one disputes that heroin is a very effective painkiller, yet even its supporters concede that heroin, if legal, would help only a handful of patients. It is not a wonder drug and should be used only to ease the pain of persons who can find relief no other way, they said.

In congressional hearings, legalization of heroin was strongly opposed by the American Medical Association and by Edward N. Brandt, M.D., Assistant Secretary for Health of the Department of Health and Human Services. "There is no clinical evidence to support the thesis that heroin is needed to improve physicians' ability to manage severe, chronic pain," Dr. Brandt said.

AMA testimony was presented by Kathleen M. Foley, M.D., Chief of Pain Service at Sloan-Kettering. Education, not legislation, is the key, she and Dr. Brandt told Congressmen. "The AMA believes that where cancer patients suffer needlessly, it is not due to a lack of effective analgesic medications, but because of ineffective use of such medications. The AMA is working to ensure that physicians are aware of the most effective pain management techniques presently available," she said.

The Subcommittee bill was significantly modified to reflect many of AMA's concerns and at month's end AMA staff and Committee staff were still discussing the package.

A DESCRIPTION OF S.A.R.T.I.

South Arkansas Radiation Therapy Institute opened its doors in October 1983. The idea was to centralize both CT scanning and Radiation Therapy services in the South Arkansas area. It is a cooperative effort between the two regional hospitals, Warner Brown Hospital and Union Medical Center. The area banks donated the "seed" money to buy the land, then issued the bonds for the construction and purchase of equipment. The Board of Directors of SARTI have generously donated their time and efforts in funding this institute. They are: Mr. Roy Hogan, Mr. John Solomon, Mr. Bill Nolan, Mr. Bill Prewitt, Mr. Russell Marks, and Dr. Myron Shoffner.

Based on similar principles as Central Arkansas Radiation Therapy in Little Rock, SARTI is a smaller version of the same. It has a 6 million volt Siemens Linear Accelerator, a Cobalt Teletherapy Unit, an Orthovoltage Machine (100-240 KV), and a Siemens Simulator. Their CT scanner is a Technicare 2060 scanner capable of doing whole body CT at the rate of 2 seconds a slice.

The staff includes Srini Vasan, M.D., Radiation Therapist and Medical Director. Dr. Vasan was born in India, did his medical training at Osmania University in Hyderabad, India, and did his radiation therapy residency in London, England, at the London University College Hospital. He is a Fellow of the Royal College of Radiologists and is Board Certified in the United States. His expertise includes not only external therapy but interstitial implants with various radioactive isotope, e.g., Iridium 192, Iodine 125, Radium, Cesium, etc. Dr. Vasan's practice is limited to radiation therapy only.

The Diagnostic Department includes Billy D. King, M.D., Robert L. Parkman, Jr., M.D., Diana T. Jucas, M.D. and T. S. Ong, M.D. They are all Board Certified.

Ever since SARTI opened its doors, the response from the medical and non-medical community in the South Arkansas and Northern Louisiana area has been very gratifying and Dr. Vasan requests that anyone needing SARTI's help can get in touch with him directly at: SARTI, 503 North Thompson, El Dorado, AR 71730, telephone: 864-0318.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

REVIEW: DIABETIC RETINOPATHY

Presented by Richard Henry, M.D., *June 18, 6:30 p.m.,* Dining Room, Memorial Hospital, North Little Rock. One hour Category 1 credit. No registration fee.

COMPARATIVE VASODILATOR THERAPY IN HEART FAILURE AND HYPERTENSION

Presented by Lofty Basta, M.D., *June 19, 7:30 p.m.,* Bella Vista Country Club, Bella Vista. Sponsored by UAMS AHEC-NW. One hour Category 1 credit. No registration fee.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category 1 Credit

EL DORADO — AHEC-South Arkansas

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category 1 of the Physician's Recognition Award of the American Medical Association.

Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-Northwest

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
Peer Exchange, August: "Cardiology"

FORT SMITH-AHEC

Cancer Conference, each Tuesday, 12:00 noon, Fourth Floor Conference Room, Sparks Regional Medical Center.

HOT SPRINGS — ST. JOSEPH'S REGIONAL HEALTH CENTER

July 3: "Geriatrics", 12:30 p.m. One hour Category I credit.

JONESBORO — AHEC-Northeast

Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Monthly Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Weekly Medical Lecture Series, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Child Neurology Conference, first Monday, 8:00 a.m., Second Floor Classroom.
Pediatric Radiology/Genetics Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Primary Care Seminar and Case Presentation, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Surgery Conference — CANCELLED JULY AND AUGUST.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.
Cardiopulmonary Resuscitation Course, fourth Thursday, 6:00 p.m. to midnight, Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E-159, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E-159, Education Wing.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Ophthalmology Morning Conference, each Monday, Wednesday, and Friday, 7:30 a.m., ED II G/104a.
Orthopaedic Fracture Conference, each Tuesday, 7:00 a.m., ED II G1/135.
Medicine Research Conference, each Tuesday, 8:00 a.m., ED II 8/105.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., ED II G1/135.
Medicine-Pathology Conference, each Wednesday, 12:30 p.m., 3E06.
GI-Radiology Conference, each Wednesday, 8:00 a.m. Radiology Conference Room.
Neuro-Radiology Case Conference, each Wednesday, 4:00 p.m., M1/293.
Medicine Grand Rounds, each Thursday, 8:00 a.m., Shorey Auditorium.
Psychiatry Grand Rounds, each Thursday, 12:00 noon, Child Study Center Auditorium.
GI-Problem Case Conference, each Thursday, 3:30 p.m., 3D29.

Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., ACC3/150.
Surgery Grand Rounds, each Saturday, 9:00 a.m. to 12:00 noon, ED H G/131 a&b.

PINE BLUFF — AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m. Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-Southwest

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.



PERSONAL AND NEWS ITEMS

DR. HEDER IN PORTLAND

Dr. Guy Heder has joined the Portland Health Care Center. He is a member of the American Academy of Family Practice.

DR. SHORT IS CANDIDATE

Dr. Harold Short of Beebe has filed for re-election to the Beebe City Council. Dr. Short has served three two-year terms on the Council.

DR. BAUMAN JOINS CLINIC

Dr. David C. Bauman has joined Drs. A. J. Thompson, Brian E. Barlow, Jo Etta Galbraith and James J. Kane at the Little Rock Cardiology Clinic.

DR. EANS COORDINATOR

Dr. Thomas Eans of Heber Springs was coordinator for the First Annual Cleburne County Health Fair. The fair was co-sponsored by the Cleburne County Hospital Auxiliary and Professional Home Health Care of Heber Springs.

DR. BERENSON MOVES

Dr. Les Berenson has relocated to the Crawford County Memorial Hospital in Van Buren.

DR. HALL IN MORRILTON

Dr. Anthony D. Hall has joined Drs. G. B. Owens and Charles Wells in Morrilton.

DR. HOLZNER SPEAKS

Dr. Charles Holzner of Blytheville spoke on Anorexia Nervosa in conjunction with the month-long Slimathon program sponsored by Chickasawba Hospital.

DR. ARMSTRONG CANDIDATE

Dr. James Armstrong of Ashdown has filed as the Democratic candidate for coroner of Little River County; Dr. Armstrong is the incumbent.

DR. BOOP ELECTED

Dr. Warren Boop of Little Rock was elected president of the Southern Neurosurgical Society at its annual meeting in New Orleans. Dr. Boop had served four years as treasurer of the organization before his election to the presidency.

DR. BRAINARD ANNOUNCES RELOCATION

Dr. Jay O. Brainard has announced the relocation of Schwarz and Brainard Eye Clinic and Optical Shop to #5 St. Vincent Circle, Suite 101, Little Rock.

DR. PORTIS ELECTED

Dr. Richard P. Portis of Prescott has been elected to the Board of Directors of the Arkansas Endowment for the Humanities.

DR. CAPLINGER RECEIVES AWARD

Dr. Kelsy Caplinger, III, of Little Rock was one of eight Arkansans chosen for a Community Service Award from the Governor's Office of Volunteerism and KARK-TV in Little Rock.

DR. HALL HONORED

Dr. Joe B. Hall of Fayetteville was recently honored by a group of Northwest Arkansas licensed

practical nurses for his help in establishing the licensed practical nursing education program in the area and for his long-time support. The nurses presented Dr. Hall with a red and white Razorback hog quilt and matching throw pillow made by the group. The 31 squares used for the quilt and pillow were made by, or in memory of, a nurse who had graduated from the program.

DR. MABRY SPEAKER

Dr. Charles Mabry of Pine Bluff was guest speaker for a nutritional support workshop sponsored by Baptist Memorial Hospital in Memphis. Dr. Mabry spoke on "Profile Specific Solutions for Organ Failure."

DR. THURLBY CHIEF

Dr. Robert Thurlby of Russellville has been elected chief of staff at St. Mary's Hospital. Dr. Gerald Stolz, also from Russellville, was elected vice chief.

DR. RUSSELL LOCATES

Dr. Dee B. Russell has opened an office for the practice of Family Medicine at 403 West Oak in El Dorado.

DR. WORKMAN SPEAKS

Dr. W. W. Workman of Blytheville discussed exercise after forty during a community Slimathon program.

DR. HENRY INDUCTED

Dr. Morriss Henry of Fayetteville was inducted into Alpha Omega Alpha of the University of Arkansas for Medical Sciences.

DR. SALTZMAN SPEAKS

Dr. Ben Saltzman, director of the State Health Department, discussed medical care in Arkansas at a recent meeting of the Little Rock Sertoma Club.

DR. TRANUM SPEAKS

Dr. Bill Tranum of Little Rock spoke during the recent American Cancer Society Division Crusade Kick-Off meeting. Dr. Tranum is a past president of the Arkansas Division.

DR. STUTEVILLE RECEIVES AWARD

Dr. Orion H. Stuteville of St. Joe received an Alumni Medal from Northwestern University at the recent Annual Alumni Awards Banquet in Chicago. The Alumni Medal is the mark of highest distinction granted to Northwestern alumni who have achieved eminence in their communities and fields of endeavor, and who have rendered exceptional service to the University, bringing honor to themselves and their alma mater. Dr. Stuteville was associated with Northwestern for forty-four years; he was chairman of maxillofacial and oral surgery at the Dental School, professor in the Medical School, and directed the plastic surgery residency training program at Northwestern Hospitals. Among other awards received by Dr. Stuteville are the Stuteville Surgical Society, organized in 1968 by his former residents, the Alumni Service Award of Oklahoma Central State College, the Service Award of the American Society of Maxillofacial Surgeons, and the Alumni Merit Award in 1959 from the Northwestern Dental School. He is a member of the Oklahoma A & M Hall of Fame.

DR. LEIPZIG SPEAKS

Dr. Bruce Leipzig of Little Rock provided counseling for families of Multiple Sclerosis victims during a recent seminar in Little Rock on yoga and massage for MS victims.

DR. NIX SPEAKS

Dr. Richard Nix of Little Rock spoke on sports-related injuries at a meeting of the Delta Roadrunners.

DR. WEAVER RECEIVES CERTIFICATE

Dr. Donald Weaver of Bentonville received a certificate from the Bentonville Kiwanis Club in recognition of his community service. Dr. Weavers and Dr. Neil Mullins have recently begun scheduling free office visits one afternoon per month for persons for whom the cost of medical care would be a hardship.

DRS. RODGERS AND WEATHERS SPEAK

Drs. Porter Rodgers and Larry Weathers of Searcy spoke during a Slimathon at Central Arkansas General Hospital. Dr. Rodgers' topic was "Surgical Management of Obesity" and Dr. Weathers' subject was "Health Risks Associated with Obesity".

DR. BURNS IN NEWPORT

Dr. Stanley C. Burns has joined Dr. Fran Duke in Newport for the practice of medicine. Dr. Burns will also serve as an Emergency Room physician at Harris Hospital.

SENIOR PHYSICIANS OF ARKANSAS

A new organization formed specifically for physicians who have reached age 65, whether or not they are retired, was given the name "Senior Physicians of Arkansas" (SPA) at a meeting held on April 25. The organization was formed to provide a means by which retired physicians, and those who will retire soon, may maintain an interest in organized medicine and continue associations developed throughout the years.

Dr. Joseph Norton of Little Rock served as Chairman Pro-tem at the meeting and the group of twenty physicians in attendance elected Dr. John McCollough Smith of Little Rock as president and Dr. Norton as vice president.

Those in attendance, who will be considered charter members, were Drs. Smith, Norton, Gordon Holt, Robert Burger, William Schwarz, Robert Carnahan, Charles R. Henry, Oba White, James Headstream, Peter Thomas, Edwin Gray, John Greutter, Raymond Cook, Alan Cazort, Edgar Easley, F. R. Buchanan, George Regnier, Woodbridge Morris, Robert Watson, all of Little Rock, and Dr. Bryant Swindoll of North Little Rock.

The group will hold monthly meetings on the third Wednesday at noon.

DRS. KENDRICK AND PETRINO

Drs. John H. Kendrick and Robert A. Petrino have opened the Northwest Arkansas Surgical Clinic for the practice of General, Thoracic, and Vascular Surgery at 803 Northwest Seventh Street, Bentonville.

DR. DICKSON ON PANEL

Dr. Glen Dickson of Jonesboro participated in a local television panel program, "Recreational Sports Injuries", sponsored by St. Bernard's Regional Medical Center.

DR. BLACK APPOINTED

Dr. H. Thurston Black of Little Rock was inducted into the newly-organized Honorary Board of Governors of the Baptist Health Foundation. The honorary board was formed to recognize contributors who had given a minimum of $50,000 to the Foundation. Dr. H. A. Ted Bailey of Little Rock is vice president of the Foundation.

DR. LESH RECOGNIZED

The Washington County Health Department gave a reception for Dr. Ruth Lesh of Fayetteville in recognition of her many years of service to the Department and the community. Dr. Lesh has retired.



NEW MEMBERS

DR. GEORGE B. HIGLEY, JR.

Dr. Higley has joined the Arkansas County Medical Society. He is a native of Grosse Pointe, Michigan.

Dr. Higley received his pre-medical education at the University of Tennessee. He is a 1955 graduate of the University of Tennessee College of Medicine in Memphis. His internship was with Charity Hospital in New Orleans. Dr. Higley received training in Surgery at Baptist Memorial Hospital in Memphis and in Orthopaedics at the Campbell Clinic in Memphis. He is board certified in Orthopaedics.

Dr. Higley practiced for twenty-two years in Memphis and served as an Associate Professor of Orthopaedics at the University of Tennessee College of Medicine.

Dr. Higley has been practicing in Blytheville since July 1983. His office is located in the Medical Plaza Building at Tenth and Highland Streets.

DR. STACEY M. JOHNSON

Dr. Johnson, a native of Alma, Georgia, has joined the Baxter County Medical Society.

He received an Associate Degree in 1969 from the South Georgia College in Douglas. In 1971, he received a Bachelor of Science degree from the University of Georgia in Athens.

Dr. Johnson is a 1975 graduate of Tulane University School of Medicine in New Orleans. His internship and residency were with Parkland Memorial Hospital in Dallas. Dr. Johnson also served an eighteen-month Cardiology Fellowship at Parkland. He is board certified by the American Board of Internal Medicine.

Dr. Johnson began practicing medicine in Mountain Home in November of 1980. He specializes in Cardiology and Internal Medicine. Dr. Johnson's office is located at 3 Medical Plaza.

DR. RALPH M. MAXWELL

Dr. Maxwell has joined the Bradley County Medical Society. He is a native of Warren.

Dr. Maxwell received a Bachelor of Science Degree from the University of Arkansas at Monti-

cello in 1976. He is a 1982 graduate of the University of Health Sciences–Michigan State University College of Osteopathic Medicine in East Lansing. His internship was with Mount Clemens General Hospital in Michigan.

Dr. Maxwell has joined the Hermitage Health Center for the practice of General Medicine. His mailing address is Post Office Box 115, Hermitage 71647.

DR. HAROLD F. STENSBY

Dr. Stensby is a new member of the Carroll County Medical Society. He was born in Kirkland, Washington.

He was graduated from the University of South Dakota in Vermillion with a Bachelor of Science Degree in 1973. Dr. Stensby received his medical degree from the University of South Dakota School of Medicine in 1977. He served with the United States Army from 1977 to 1983. His internship and Family Practice residency were at Martin Army Hospital in Fort Benning, Georgia.

Dr. Stensby is a board certified Family Physician. His office for the practice of Family Medicine is located at 207 Carter Street in Berryville.

DR. JOHN F. BALL

Dr. Ball has joined the Craighead-Poinsett County Medical Society. He was born in Atlantic, Iowa.

Dr. Ball received a Bachelor of Science degree from the University of Iowa, Iowa City, in 1973. He was graduated from the University of Iowa College of Medicine in 1978. Dr. Ball completed his internship and Orthopaedic Surgery residency at the University of Oklahoma Health Science Center in Oklahoma City.

Dr. Ball specializes in Orthopaedic Surgery. His office is located at 801-B Osler Drive in Jonesboro.

DR. JUSTIN C. ADLER, JR.

Dr. Adler is a new member of the Crittenden County Medical Society. Dr. Adler is a native of Memphis, Tennessee. He received a Bachelor of Science degree from Memphis State University in 1973. Dr. Adler is a 1976 graduate of the University of Tennessee College of Medicine in Memphis.

Dr. Adler served his internship and residency at Baptist Memorial Hospital in Memphis. He is board certified in Anatomic and Clinical Pathology.

Dr. Adler was on the staff of the University Medical Center in Montgomery, Alabama, from 1981 to 1982. He was associated with the Crittenden Memorial Hospital and the Memphis Pathology Laboratory from 1982 to 1983.

Dr. Adler specializes in Pathology. His address is 200 Tyler Street in West Memphis.

* * * *

The Pulaski County Medical Society has seven new members:

DR. PHILLIP R. ALSTON

Dr. Alston, a native of Memphis, is a 1975 graduate of Arkansas State University. He was graduated from the University of Arkansas College of Medicine in 1979.

Dr. Alston received his training in Obstetrics and Gynecology at the University Hospital from 1979 to 1983.

Dr. Alston specializes in Obstetrics and Gynecology. His office is located at 2000 Fendley Drive in North Little Rock.

DR. CHESTER S. CADWALLADER

Dr. Cadwallader was born in Dallas, Texas.

He received a Bachelor of Science degree and a Master of Science degree from Baylor University in Dallas. Dr. Cadwallader attended the Universidad Autonoma de Guadalajara from 1975 to 1977. He received his medical degree from Louisiana State University Medical Center, Shreveport School of Medicine, in 1980.

Dr. Cadwallader served a rotating internship in Medicine and Surgery at St. Paul Hospital in Dallas from July to December 1980. He trained in Physical Medicine and Rehabilitation from 1981 to 1983 at Parkland Memorial Hospital in Dallas. Dr. Cadwallader has passed Part I of the examination for certification in Physical Medicine and Rehabilitation.

Dr. Cadwallader specializes in Physical Medicine and Rehabilitation. His office is located in the Medical Arts Building at 1120 Marshall Street in Little Rock.

DR. DAVID M. DEAN

Dr. Dean was born in El Dorado. He received a Bachelor of Science degree from Northeast Louisiana University in Monroe in 1975. Dr. Dean is a 1979 graduate of the University of Arkansas College of Medicine.

He served a flexible internship at the University. From 1981 to 1982, Dr. Dean was in Anesthesiology training at the University of Colorado Medical Center in Denver.

Dr. Dean specializes in Anesthesiology. His

office is located at 500 South University in Little Rock.

DR. WILLIAM H. FLANAGAN

Dr. Flanagan, a native of Memphis, received a Bachelor of Science degree from Memphis State University in 1966. He was graduated from the University of Arkansas College of Medicine in 1970.

Dr. Flanagan received further training at the University from 1970 to 1975 and at the University of Rochester Hospital from 1975 to 1977. He is board certified in Internal Medicine.

Dr. Flanagan was in private practice in Memphis, Tennessee, prior to locating in Little Rock.

Dr. Flanagan specializes in Internal Medicine and Cardiology. His office is located at 650 Shackleford in Little Rock.

DR. JERE D. GUIN

Dr. Guin, a native of Russellville, Alabama, is the new Chairman of the Department of Dermatology at the University of Arkansas College of Medicine.

He is a 1951 graduate of the University of Alabama in Birmingham and a 1955 graduate of Northwestern University Medical School in Chicago. Dr. Guin's internship was at Jefferson Davis Hospital in Houston. His residency in Dermatology was at Baylor College of Medicine. He is board certified in Dermatology.

Dr. Guin served with the United States Air Force from 1959 to 1963. He was in private practice in Kokomo, Indiana, from 1963 to 1983.

DR. JAMES B. HAZLEWOOD

Dr. Hazlewood was born in El Paso. He was graduated from the University of Arkansas at Fayetteville in 1973 and the University of Arkansas College of Medicine in 1977. His training in Internal Medicine was with the University from 1977 to 1980.

He is board certified in Internal Medicine.

Dr. Hazlewood was on the staff of Riverview Medical Center from 1980 to 1982.

Dr. Hazlewood's office for the practice of Internal Medicine is at 11121 North Rodney Parham in Little Rock.

DR. RICHARD H. MARTIN

Dr. Martin was born in LaPorte, Indiana.

He is a 1953 graduate of Johns Hopkins University in Baltimore, Maryland. He was graduated with honors from the University of Rochester School of Medicine in 1957. Dr. Martin did an internship in straight medicine with Strong Memorial Hospital and Rochester Municipal Hospital in Rochester. He served as an assistant resident in Medicine at the University of Washington Hospitals, Seattle, Washington, 1958 to 1959 and 1961 to 1962.

Dr. Martin received his certification in Internal Medicine in 1966 and was recertified in 1977. He is also board certified in Cardiovascular Disease.

He was a member of the staff at the University of Missouri School of Medicine in Columbia from 1965 until he moved to Arkansas.

Dr. Martin specializes in Cardiology. His office is in Suite 360 of the Doctors Park Building in Little Rock.





OBITUARY

DR. STEPHEN B. FINCH

Dr. Stephen Finch of Fayetteville died March 28th. He was born on May 14, 1933.

Dr. Finch was graduated from Hendrix College in Conway in 1954 and from the University of Arkansas College of Medicine in 1958. He received his residency training in Psychiatry at the University Medical Center. Dr. Finch also served as a Neuropsychiatrist at the 148th Evacuation Hospital with the Arkansas National Guard.

Dr. Finch is survived by his daughter, Julia Lynne Rinnert.



THINGS TO COME



June 29-July 1

Regional Postgraduate Clinical Conference. Southern Medical Association. Kiawah Island, Charleston, South Carolina. Registration: $15 per hour for SMA members; $22.50 per hour for nonmembers.

For further information, contact Jeanette Stone, Post Office Box 2446, Birmingham, Alabama 35201; telephone 205-323-4400.

August 18

Ophthalmology Update 1984. University of Mississippi Medical Center. Holiday Inn Downtown, Jackson, Mississippi. For further information, 2500 North State Street, Jackson, Mississippi 39216-4505; telephone 601-987-4914.

August 31-September 2

Malpractice Prophylaxis and Providing Quality Medical Care in Your Practice. Southern Medical Association. The Greenbrier, White Sulphur Springs, West Virginia. Registration $220 for SMA members; $275 for nonmembers.

For further information, contact Jeanette Stone, Post Office Box 2446, Birmingham, Alabama 35201; telephone 205-323-4400.

LABOR DAY WEEKEND

Multispecialty Oculoplastic Surgery Symposium. Good Samaritan Hospital, Lexington, Kentucky. For further information, contact Dr. Constance M. Fulmer, Director of Medical Education, Good Samaritan Hospital, 310 South Limestone Street, Lexington, Kentucky 40508; telephone 606-252-6612.

September 6

Bulimia and Anorexia Nervosa. University of Mississippi Medical Center. Holiday Inn North, Jackson, Mississippi. For further information, write 2500 North State Street, Jackson, Mississippi 39216-4505; telephone 601-987-4914.

September 11-12

Conference on Homeostatic Functions in the Elderly. St. Louis and Little Rock Geriatric Research Education and Clinical Center, Veterans Administration Medical Center. Sheraton St. Louis Hotel, St. Louis. Program will include invited speakers and contributed posters. For further information and abstract forms, contact: Conference Secretary, Geriatric Center (111G/JB), Veterans Administration Medical Center, St. Louis, Missouri 63125; telephone 314-894-4659.

October 8-12

50th Annual Scientific Assembly of the American College of Chest Physicians. Loews Anatole Hotel, Dallas, Texas. For information on the program and registration, contact Ardath Berliant, Press Relations Coordinator, American College of Chest Physicians, 911 Busse Highway, Park Ridge, Illinois 60068-2375; telephone 312-698-2200.

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re prescribing, see complete prescribing information in F CO. literature or *PDR*. The following is a brief summary.

ARNING

is drug is not indicated for initial therapy of edema or pertension. Edema or hypertension requires therapy ored to the individual. If this combination represents the sage so determined, its use may be more convenient in tient management. Treatment of hypertension and edema not static, but must be reevaluated as conditions in each tient warrant.

traindications: Concomitant use with other potassium-ing agents such as spironolactone or amiloride. Further use uria, progressive renal or hepatic dysfunction, hyperkalemia. existing elevated serum potassium. Hypersensitivity to either ponent or other sulfonamide-derived drugs.

nings: Do not use potassium supplements, dietary or other-, unless hypokalemia develops or dietary intake of potas-n is markedly impaired. If supplementary potassium is ded, potassium tablets should not be used. Hyperkalemia occur, and has been associated with cardiac irregularities. It ore likely in the severely ill, with urine volume less than one day, the elderly and diabetics with suspected or confirmed l insufficiency. Periodically, serum K^+ levels should be deter-ed. If hyperkalemia develops, substitute a thiazide alone, ict K^+ intake. **Associated widened QRS complex or arrhyth-requires prompt additional therapy.** Thiazides cross the ental barrier and appear in cord blood. Use in pregnancy ires weighing anticipated benefits against possible hazards, iding fetal or neonatal jaundice, thrombocytopenia, other rse reactions seen in adults. Thiazides appear and tri-erene may appear in breast milk. If their use is essential, the nt should stop nursing. Adequate information on use in dren is not available. Sensitivity reactions may occur in ents with or without a history of allergy or bronchial asthma. sible exacerbation or activation of systemic lupus erythe-osus has been reported with thiazide diuretics.

autions: Do periodic serum electrolyte determinations (par-rly important in patients vomiting excessively or receiving enteral fluids, and during concurrent use with amphotericin B rticosteroids or corticotropin [ACTH]). Periodic BUN and m creatinine determinations should be made, especially in elderly, diabetics or those with suspected or confirmed renal ficiency. Cumulative effects of the drug may develop in ents with impaired renal function. Thiazides should be used caution in patients with impaired hepatic function. They can pitate coma in patients with severe liver disease. Observe ularly for possible blood dyscrasias, liver damage, other idio-ratic reactions. Blood dyscrasias have been reported in ents receiving triamterene, and leukopenia, thrombocyto-ia, agranulocytosis, and aplastic and hemolytic anemia have n reported with thiazides. Thiazides may cause manifestation dent diabetes mellitus. The effects of oral anticoagulants may decreased when used concurrently with hydrochlorothiazide; age adjustments may be necessary. Clinically insignificant actions in arterial responsiveness to norepinephrine have n reported. Thiazides have also been shown to increase the alyzing effect of nondepolarizing muscle relaxants such as curarine. Triamterene is a weak folic acid antagonist. Do odic blood studies in cirrhotics with splenomegaly. Anti-ertensive effects may be enhanced in post-sympathectomy ents. Use cautiously in surgical patients. Triamterene has n found in renal stones in association with the other usual culus components. Therefore, 'Dyazide' should be used with tion in patients with histories of stone formation. A few occur-ces of acute renal failure have been reported in patients on azide' when treated with indomethacin. Therefore, caution is ised in administering nonsteroidal anti-inflammatory agents h Dyazide'. The following may occur: transient elevated BUN creatinine or both, hyperglycemia and glycosuria (diabetic sulin requirements may be altered), hyperuricemia and gout, alis intoxication (in hypokalemia), decreasing alkali reserve possible metabolic acidosis. 'Dyazide' interferes with fluores-measurement of quinidine. Hypokalemia is uncommon with azide', but should it develop, corrective measures should be en such as potassium supplementation or increased dietary ke of potassium-rich foods. Corrective measures should be tituted cautiously and serum potassium levels determined. continue corrective measures and 'Dyazide' should labora-values reveal elevated serum potassium. Chloride deficit y occur as well as dilutional hyponatremia. Concurrent use h chlorpropamide may increase the risk of severe hypo-remia. Serum PBI levels may decrease without signs of thyroid rturbance. Calcium excretion is decreased by thiazides. azide' should be withdrawn before conducting tests for para-roid function.

azides may add to or potentiate the action of other antihyper-sive drugs.

retics reduce renal clearance of lithium and increase the risk thium toxicity.

verse Reactions: Muscle cramps, weakness, dizziness, head-he, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, rpura, other dermatological conditions; nausea and vomiting, rrhea, constipation, other gastrointestinal disturbances; pos-al hypotension (may be aggravated by alcohol, barbiturates, narcotics). Necrotizing vasculitis, paresthesias, icterus, ncreatitis, xanthopsia and respiratory distress including pneu-onitis and pulmonary edema, transient blurred vision, sialade-s, and vertigo have occurred with thiazides alone. Triamterene s been found in renal stones in association with other usual culus components. Rare incidents of acute interstitial nephritis ve been reported. Impotence has been reported in a few ients on 'Dyazide', although a causal relationship has not en established.

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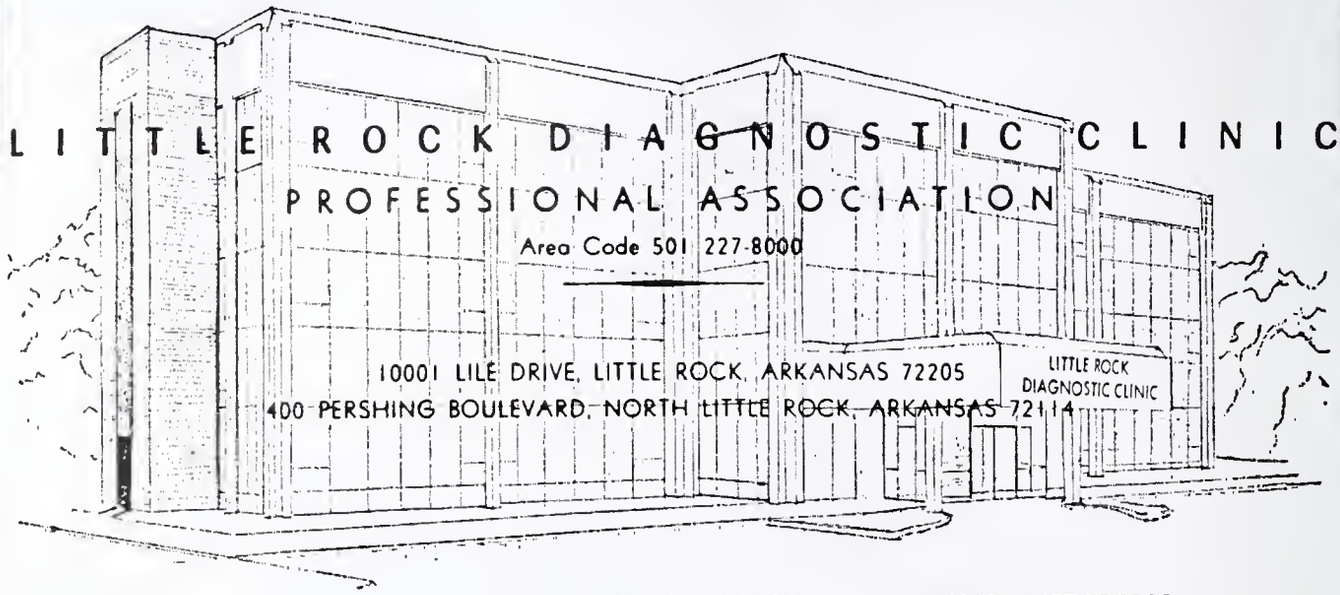
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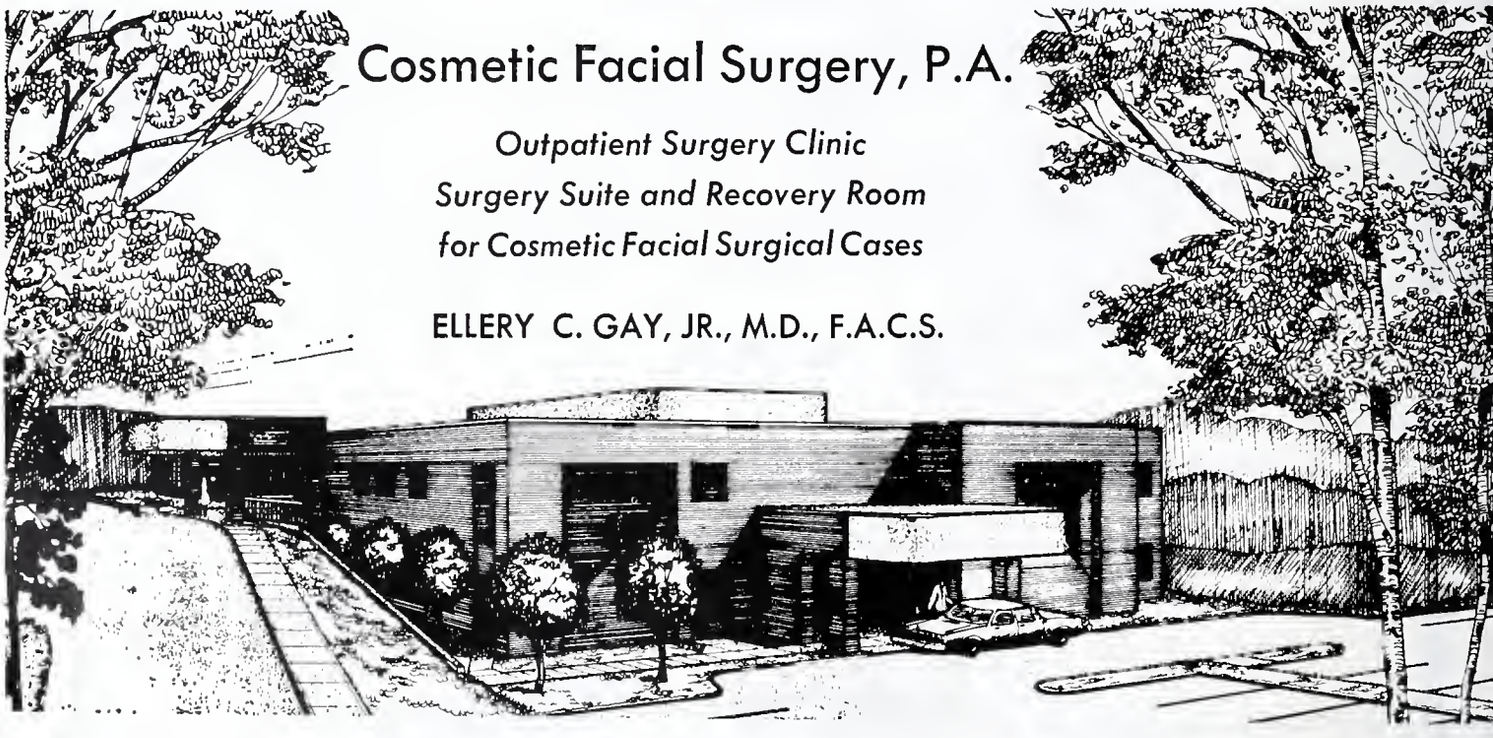
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EUREKA SPRINGS. Opportunity to join group in small, well-established clinic which serves the residents of surrounding communities. Community has a well-equipped 22-bed community hospital, completely staffed, new emergency room and operating room, a new monitoring system, and fully equipped laboratory and x-ray departments. Population of Eureka Springs is 2,200. It is a resort town and draws thousands of tourists each year.

HEBER SPRINGS. Population 5,000, with a rapidly growing county population of around 18,000. Opportunities exist for a general surgeon and an internist to establish a practice in the area. There is a 54-bed hospital in the town and there are two nursing homes in the area. Heber Springs is 70 miles north of Little Rock, located in the beautiful hills of Northcentral Arkansas on Greers Ferry Lake.

DUMAS. Population of Dumas is 7,000, with a trade area of 30,000. Seven physicians now in practice in Dumas are aiding in the effort to obtain additional general and family practitioners, an internist, an obstetrician-gynecologist, and a pediatrician. New, ultra-modern office facilities are near the 50-bed hospital. Dumas is 40 miles from Pine Bluff and 80 miles from Little Rock.

JONESBORO. Population 32,000; trade area population is approximately 250,000. An opportunity exists for a family or general practitioner and a general surgeon to associate with an extremely busy two-man group. New 6,000 square foot clinic in new office complex, excellent salary with fringe benefits including retirement, pension profit sharing plan. There is a 300-bed Catholic hospital and a 100-bed community hospital in Jonesboro; both are modern and complete in their facilities. Approximately 80 physicians, representing virtually all specialties, practice in Jonesboro.

For additional information on these opportunities, contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

Opportunities to Practice Medicine in Arkansas

FORREST CITY. Located on Interstate 40, just 45 miles from Memphis, Tennessee, and 90 miles from Little Rock. Population 13,800, trade area population 70,000. Opportunities exist in the fields of internal medicine, orthopaedic surgery, and pediatrics. Baptist Memorial Hospital-Forrest City, Inc. is a full service 112 bed JCAH hospital with 17 physicians on the active medical staff. A new 118 bed replacement hospital will be completed in July 1985. Several financial options are available.

HARTFORD. Population 700; population of trade area approximately 7,500. Recently constructed 16 room partially furnished clinic available for family or general practitioner. Hartford is located only 30 miles from Fort Smith.

VILONIA. Population 1,000; trade area population approximately 6,000. Opportunity for a general practitioner, emergency care physician, internist and a pediatrician. Physicians locating in Vilonia may qualify for benefits of loan cancellation for medical school loans through the Rural Loan and Scholarship Program or financial assistance from the State for physicians who locate in medically underserved areas. Space is available for a clinic in the shopping center.

MOUNTAIN HOME. Population 10,000. Trade area population approximately 29,000. This area has experienced a 102% increase in population within the last ten years. Opportunities exist in either solo or group practice for physicians in the fields of otolaryngology, orthopaedics, pediatrics, and urology. There are currently 32 physicians practicing in Mountain Home. The community hospital, which is J.C.A.H. accredited, will soon be expanded to 135 beds.

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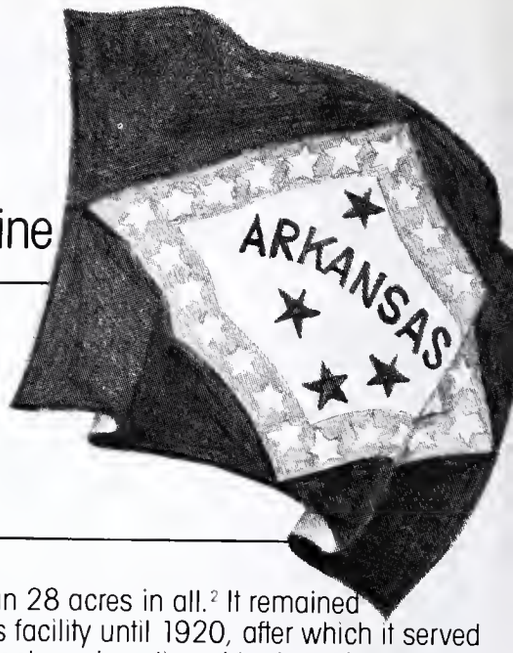
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Roche salutes the history of Arkansas medicine



THE 80-BED BEGINNING

From the terrible experience of the Civil War came a new understanding of the nation's need for medical facilities. Wartime surgeons, Union and Confederate alike, shared their battlefield experiences, publicized their hard-won knowledge, lectured and taught young doctors and, in some cases, became founders of medical colleges.[1]

Born at the dinner table

An important result of their collaborations and recommendations was the appropriation by the United States Congress in 1882 of funding for the first joint services hospital—the Army and Navy General Hospital at Hot Springs, Arkansas. The original proposal for this historic institution was made over dinner at the Old Palace Bath House in Hot Springs.[2]

On January 17, 1887, only one year after the city's incorporation, this pioneer facility opened to receive patients. The 80-bed hospital consisted of five separate buildings connected by verandas.[3]

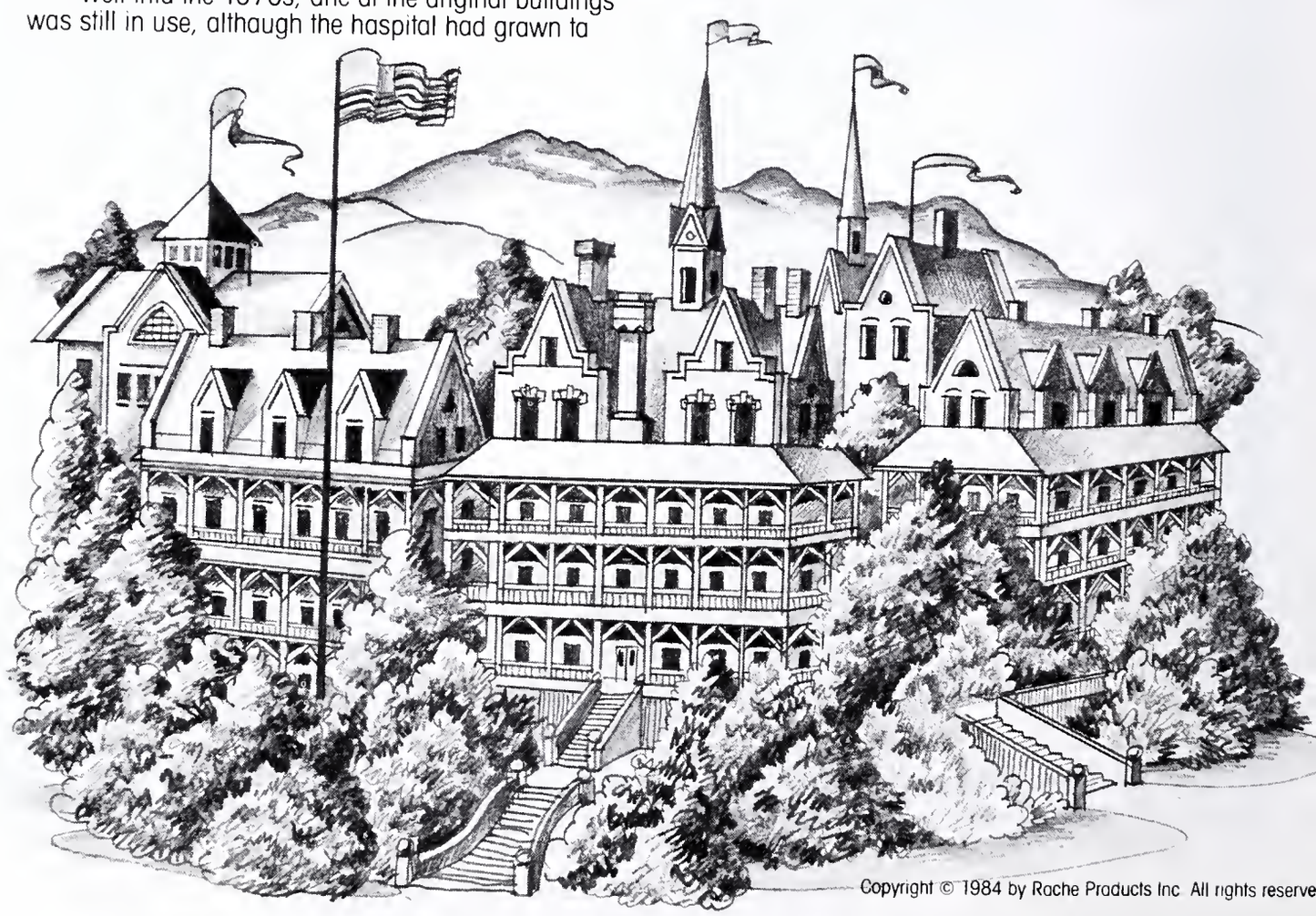
Well into the 1970s, one of the original buildings was still in use, although the hospital had grown to 59 buildings on 28 acres in all.[2] It remained a joint services facility until 1920, after which it served only Army patients and continued to do so for an additional 38 years while retaining its original name.[2]

The state gets a bargain

In April 1960 it was deeded over to the state of Arkansas for the legal sum of one dollar, and the state now runs it as the Hot Springs Rehabilitation Center, a treatment and training center serving handicapped people in the entire Southwest.[2]

However, as the first Army and Navy joint services hospital, it was the historic precursor of medical care facilities for United States military and naval personnel throughout the world.

References: 1. Hall CR: The lessons of the War Between the States, in *History of American Medicine*, edited by Marti-Ibañez F, New York, MD Publications, 1959, pp 92-93 **2.** *The Student Echo*, Hot Springs Rehabilitation Center, Hot Springs, Arkansas, Jan 1974, pp 2-5 **3.** Kane JN *Famous First Facts*, 3rd ed., New York, The H W Wilson Co., 1964, p 302



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When the history reveals mixed depression and anxiety...

For the estimated 70 percent of nonpsychotic depressed patients who are anxious,[1] Limbitrol provides both amitriptyline, specific for symptoms of depression, and the effects of Librium® (chlordiazepoxide HCl/Roche), the ed and dependable anxiolytic. Limbitrol is, therefore, a better choice for these ents than dual agents that contain a phenothiazine, a class of antipsychotic gs which has been associated with tardive dyskinesia.

% of Overall Improvement...Within the First Week

Limbitrol also has a rapid onset of action which may lead to greater ent compliance. In a multicenter study, patients taking Limbitrol experienced % of their overall improvement within the first week of therapy.[2]

In another multicenter study,[3] the following symptoms associated with anx- s depression were significantly reduced during the first two weeks of rapy:

- ☐ Headache—79%
- ☐ Early insomnia—91%
 Middle insomnia—87%
 Late insomnia—89%
- ☐ Gastrointestinal upset—73%

In two multicenter studies, only 1.9% of Limbitrol patients experienced rdiovascular side effects.[3]

Patients should be cautioned about the combined effects with alcohol or er CNS depressants and about activities requiring complete mental alertness ch as operating machinery or driving a car.

rences: **1.** Rickels K: Drug treatment af anxiety, in *Psychapharmacalagy in the Practice of Medicine*, edited by Jarvik ME; New , Appletan-Century-Crafts, 1977, p. 316. **2.** Feighner JP *et al: Psychapharmacalagy 61*: 217-229, Mar 1979 **3.** Data an file, mann-La Rache Inc , Nutley, NJ

In moderate depression and anxiety

Limbitrol® 5-12.5 10-25

Tablets 5-12.5 each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)

Tablets 10-25 each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt)

Please see summary of product information on following page.

LIMBITROL® Tablets Ⓝ Tranquilizer-Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude toxic, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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References

1. Stone PH, Turi ZG, Muller JE: Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104:672-681, September 1982.
2. Antman E, Muller J, Goldberg S, et al: Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302:1269-1273, June 5, 1980.

BRIEF SUMMARY

PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina), PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity to reaction to PROCARDIA.

WARNINGS: **Excessive Hypotension**: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: **General**: **Hypotension**: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug Interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients; transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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"I can do things that I couldn't do for 3 yrs. including joining the human race again."



Quotes from an unsolicited letter received by Pfizer from an angina patient.
While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] *as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) *Capsules 10 mg*

*Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA *brief summary on adjoining page.*

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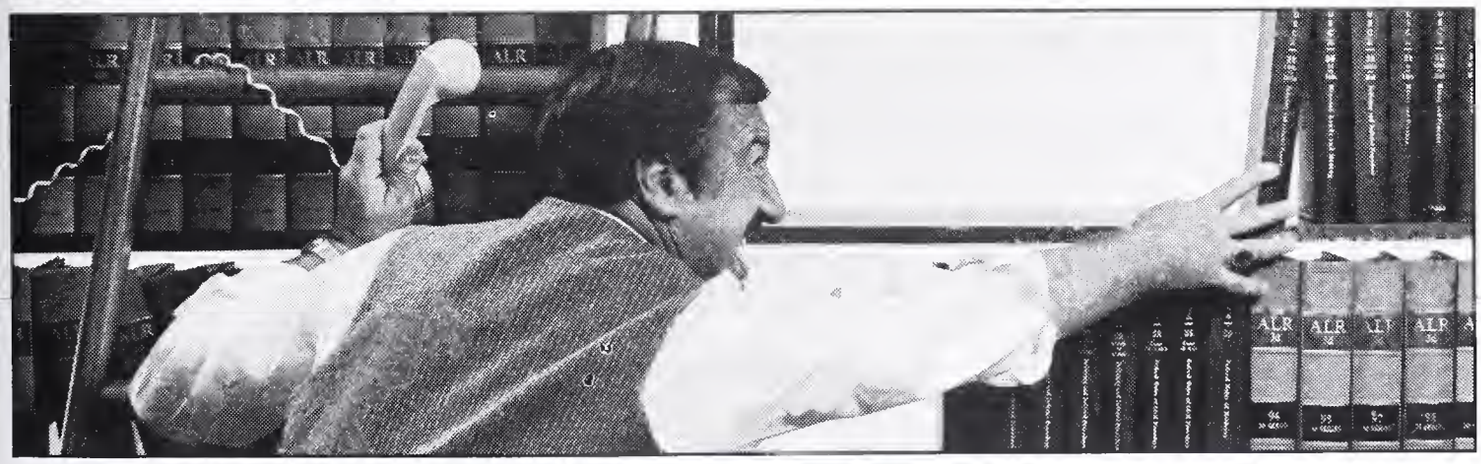
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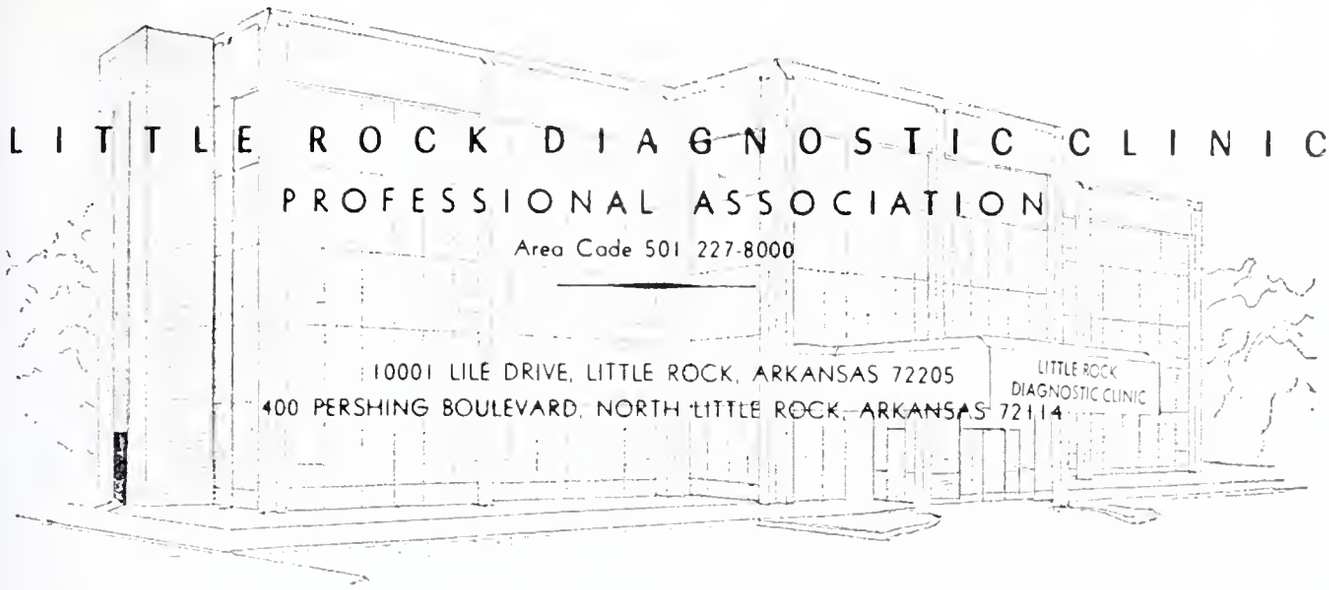
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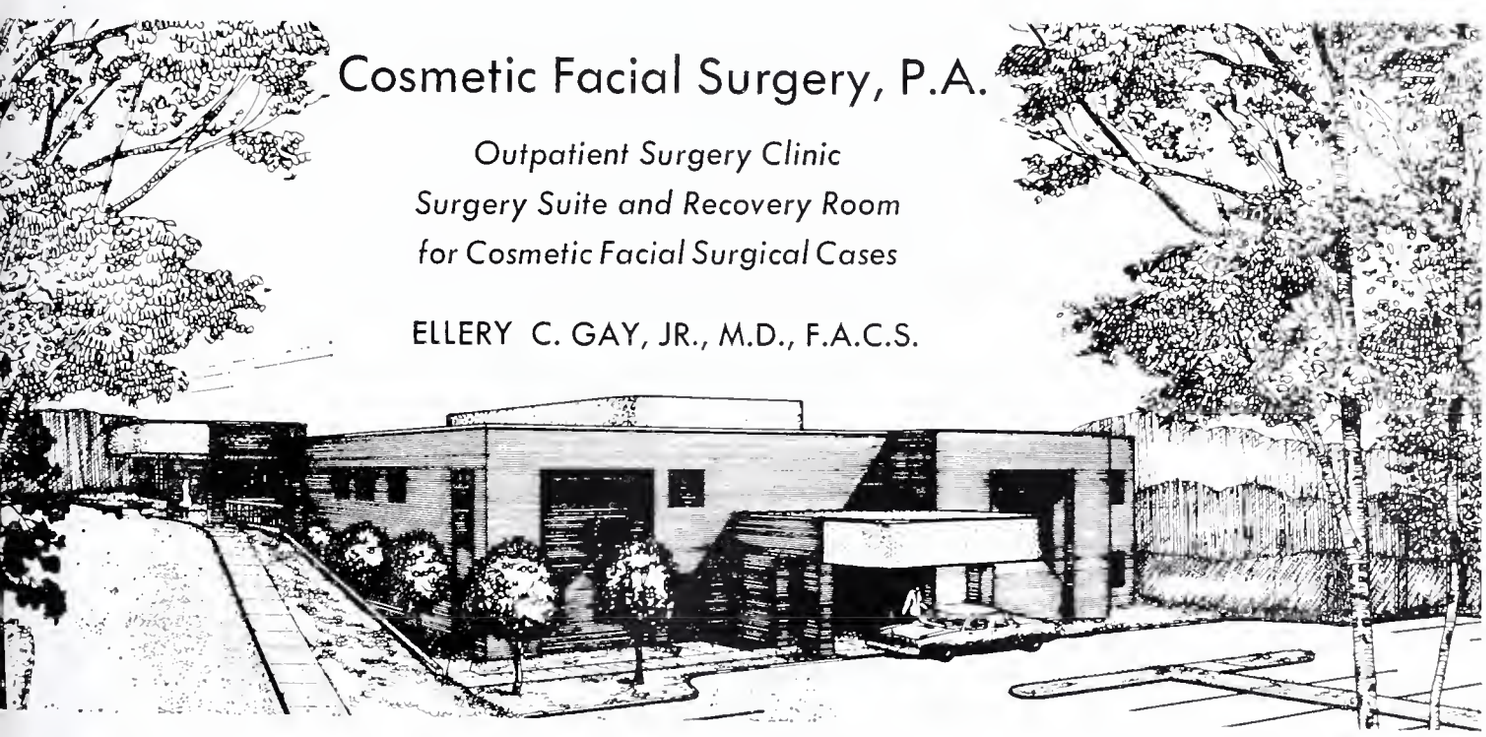
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CONTRAINDICATIONS:
ASPIRIN: Allergic or idiosyncratic reactions to aspirin or related compounds.

MEPROBAMATE: Acute intermittent porphyria, allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromal.

WARNINGS:
ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE: DRUG DEPENDENCE
Physical and psychological dependence, and abuse have occurred. Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, anorexia or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation, symptoms usually cease within next 12- to 48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USAGE IN PREGNANCY AND LACTATION:
An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic® (meprobamate with aspirin) is not recommended for patients 12 years of age and under.

PRECAUTIONS:
ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.

MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS:
ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.

GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSAGE AND ADMINISTRATION:
Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSAGE:
Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone). Death has been reported with ingestion of as little as 12 grams meprobamate and survival with as much as 40 grams.

BLOOD LEVELS:
0.5-2.0 mg percent represents usual blood level range of meprobamate after therapeutic doses. The level may occasionally be as high as 3.0 mg percent.

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected.

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration. Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

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Alcohol Detoxification: Emergency Room Treatment and Referral in Arkansas

Dowling B. Stough, IV, M.D.*

Recent data from the National Institute of Alcohol Abuse and Alcoholism (NIAA) reveals that approximately 10% of adult American drinkers "are likely to experience either alcoholism or problem drinking at some point in their lives". It is estimated that 90% of the adults who appear drunk in emergency departments are alcoholics.[1] Emergency room physicians are often confronted by patients with alcohol related conditions, i.e., acute delirium tremens, alcohol related seizures, confusion, agitated intoxication and other withdrawal symptoms. In acute intoxication, the diagnosis of alcoholism is not difficult. In other cases, the presenting complaints, physical findings and laboratory values aid in recognition of alcoholism in the emergency service patient. Table I lists the approximate percentages of findings suggestive of alcoholism.[2] This article will discuss emergency room treatment, referral of alcoholics and identify the various detoxification programs in Arkansas.

Alcohol Withdrawal Syndrome

Chronic alcohol ingestion has a depressant effect on the central nervous system.[1] When alcohol ingestion ceases, compensatory mechanisms are activated, and C.N.S. hyperexcitability occurs.[3] Studies have demonstrated increased plasma and urinary levels of norepinephrine and epinephrine in delirium tremens.[4] Biochemical postulates for these compensatory changes include falling levels of prostaglandin E, membrane altercations, and most recently, endorphin stimulation within the C.N.S.[1,3]

The primary triad of the alcoholic withdrawal syndrome includes hallucinations, tremors and disorientations.[5] Alcoholic convulsions are also a sign of withdrawal.[5] Symptoms are characterized by hyperacuity of all sensory modalities, i.e., tachycardia (47%), tremors (37%), anorexia (53%), over-alertness, hyperreflexia, anxiety, insomnia and a reduction of seizure threshold.[6] Mild reactions usually appear in a matter of hours after cessation of drinking and disappear in two to three days, whereas, delirium tremens and severe alcohol withdrawal reactions are most commonly observed 48 to 72 hours after the last drink.[1,4]

Florid delirium tremens develop in less than 5% of hospitalized patients in alcoholic withdrawal.[4] There are considerable variations in the clinical presentation of delirium tremens, but delirium is the hallmark of DTs. Since DTs are associated with a 5-25% mortality rate,[1,3,4] it is important to identify which patients present a significant risk of developing DTs. Leading this high risk group are patients with a previous history of DTs and those experiencing withdrawal seizures. A recently published article states, "If patients with seizures are left untreated, 30 to 40% will later develop DTs."[3]

Other findings which may signal a severe withdrawal include the patient who has a core temperature higher than 40°C (104°F), malnutrition, hallucinations, and electrolyte disturbances.[4] Patients with autonomic findings of hyperventilating respiratory alkalosis and hyperthermia should be watched closely since they have a higher mortality during detoxification.[1] The common electrolyte imbalances found in withdrawing patients include hypophosphatemia, hypokalemia, hypomangesemia, and hypocalcemia.

Hallucinations which occur frequently in mild to moderately severe withdrawal are usually visual but may be auditory or mixed.[3] Patients are often completely oriented to time, place, and person during a hallucination.[1] Although hallucinations are frightening, they are not an indication of severe withdrawal by themselves.[1]

Treatment

The aim of drug therapy during acute with-

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drawal is to halt the progression of symptoms and prevent complications associated with severe withdrawal reactions. The most popular drugs for treating alcohol withdrawal currently include benzodiazepines, major tranquilizers and antihistamines. The benzodiazepines are cross tolerant with alcohol and are currently considered by many to be the drug of choice in treating withdrawal symptoms. The popularity stems not only from their tranquilizing effect but also the anticonvulsant properties and high therapeutic index. In regard to specific benzodiazepines, investigators differ on their preferences.

For the patient with a history of alcohol withdrawal seizures, diazepam is the best selection due to its superior anticonvulsant effect.[7] When given intravenously, the onset of diazepam's action is immediate while the onset of intravenous chlordiazepoxide varies from 3 to 30 minutes.[7] Also, chlordiazepoxide comes as a dry powder which requires reconstruction prior to intravenous use.[7] However, when compared to other benzodiazepines, chlordiazepoxide has less additive effect with alcohol in depressing the level of consciousness.[8] This drug is the preferable choice if intramuscular injection is desirable because it is less irritating than diazepam.[8]

The short acting benzodiazepines have been used recently in alcohol detoxification and have been particularly useful in treating patients who have underlying critical illness in addition to alcohol withdrawal symptoms.[8] Oxazepam given in starting doses of 30 to 90 mg. can produce a calm but not necessarily sedating effect.[9] Neither oxazepam or lorazepam are metabolized to active compounds with long half lives. Both are eliminated by the kidney and thus have a theoretical advantage in patients with liver disease.[1]

Chlormethiazole is an intermediate product in the synthesis of thiamine and is not currently available in the United States. This drug has both sedative and anticonvulsant properties.[9] Like the benzodiazepines, chlormethiazole is cross tolerant with alcohol and is preferred for the management of alcohol withdrawal in many European countries.[8] When used in the treatment of delirium tremens, Swedish studies claim that it eliminates symptoms in 80 to 90% of all cases.[9] When compared to chlordiazepoxide, double blind studies found chlormethiazole to be more effective in preventing symptoms of delirium tremens.[9,10,11] With these positive research findings, chlormethiazepole may become a useful drug in the alcohol withdrawal syndrome if approved for use in the United States.

Many centers use standard regimens of benzodiazepines, anticonvulsants, and multivitamin supplements during alcohol detoxification. This method of detoxification was supported by controlled studies which consistently showed that withdrawing alcoholics treated with sedative tranquilizing drugs have fewer complications and shorter periods of illness than non-treated patients.[5] This traditional method of medical (drug) detoxification has recently been challenged. Whitfield and Associates conducted a study of 1024 alcoholic patients detoxified without psychoactive drugs and concluded "these patients did as well in the non-drug detoxification as similar patients have done when given sedatives or mild tranquilizers".[6] During the above study, patients with severe withdrawal symptoms (8%) were sent to a hospital emergency department for further examination and admittance, if indicated.

Seizures

"Alcohol epilepsy" is a term often used to indicate seizures associated with alcohol withdrawal. Seizure threshold is lowered in part due to respiratory alkalosis and hypomagnesemia. Wolfe and Victor demonstrated that the maximal change in PH and CO_2 occurred 12 to 24 hours after the onset of alcohol withdrawal and that the appearance of seizures and hallucinations coincided with the maximal degree of respiratory alkalosis.[12] Patients prone to these "rum fits", predictably (90%), have seizures 6 to 48 hours after cessation of alcohol intake.[13] Some patients may have a seizure as the sole manifestation of withdrawal.[1] Debate continues in emergency departments concerning the optimal treatment for withdrawal seizures. When considering treatment, it is important to distinguish between prophylactic use of anticonvulsants and acute therapy. A proper distinction allows precise management and more definitive therapy.

Two subsets of patients must be recognized: 1. those with ongoing seizure activity and, 2. those with only a history of alcoholic seizures. Prophylactic treatment with phenytoin and benzodiazepine will reduce the number of seizures in the latter group.[3] Alcoholics with ongoing acute seizure activity can be effectively managed with benzodiazepines alone.

"Rational Management of Alcohol With-

drawal Seizures" by Josephson and Sabatier states that these authors prefer not to treat most acute withdrawal seizures and do not routinely advocate the use of intravenous anticonvulsants to abolish seizure activity.[13] They argue that these seizures are brief and lack significant mortality and morbidity and that conservative management is effective if measures are taken to prevent physical injury or aspiration during a seizure. Many emergency room specialists do find advantages for abolishing seizure activity. At the Benton Treatment Center for Alcoholics (discussed later concerning placement), acute seizure activity is treated with 5 to 10 mg. of intravenous diazepine with favorable results.

Regardless of treatment administered, all patients with single or multiple seizures require careful evaluation to rule out serious underlying disorder. Emergency room specialists recommend patients with any withdrawal seizures be held under observation for at least eight hours. The neurologic examination can be used to adequately determine which patients need prompt CAT scanning. In the absence of focal neurologic defects, CAT scanning does not improve evaluation of patients with alcohol withdrawal seizures.[14] In one review of 238 patients with alcohol withdrawal seizures but without signs of focal deficity, neurologic exams failed to detect only 0.8% of potentially reversible lesions which were identified on CAT scans.

Acute Intoxication

Prevention of death from respiratory depression is the most important consideration when blood alcohol levels reach 4000 mg. per liter. The lethal dose for 50% of patients (LD 50%) corresponds to a level 5000 mg. per liter.[4] Individuals who appear sober but have blood alcohol levels over 100mg/dl are usually alcoholics.[1] Obtunded and comatose patients with a blood alcohol level about 3000 mg. per liter may require intubation and ventilation.[1]

Naloxone hydrochloride is generally considered to be a specific opiate antagonist. There are reports of reversal of ethanol induced coma with intravenous naloxone in doses from .4mg.-2mg.[15,16,17] This arousal effect of naloxone is seen only in a minority of cases. Naloxone has no narcotic agonistic effects in therapeutic doses and may prove useful in evaluating suspected cases of alcohol induced coma, as well as avoiding intubation and the complications of coma.[15] In the future, this drug should have a role in the treatment of patients with alcohol induced coma. Some researchers, however, do not feel naloxone demonstrates an effective reversal of intoxication and do not advocate its use.

A significant number of patients with acute intoxication arrive in emergency room with uncontrolled agitation and aggressive behavior. Police often accompany these individuals to a medical facility. From the psychiatric viewpoint, this aberrant behavior can manifest itself as acute alcoholic psychosis. Physical restraints are often used in lieu of sedating medications for fear of the synergistic depressant effects of alcohol and benzodiazepines. The butyrophenones such as Haldol® have been successfully used when there is a need for chemical restraints. Injectable Haldol® in doses of 2.5mg.-10mg. has a calming and quieting effect within 30 minutes, and Peak I.M. blood levels are achieved in about 20 minutes.[18] This rapid onset often produces sleep and allows interaction with the staff after awakening. This switch from physical restraints to chemical restraints seems more humane, and may be beneficial to patients and staff. The toxicity of this drug must be considered, especially the hypotensive effect due to alpha adrenergic blockade. When Haldol® was evaluated solely for acute agitated behavior in intoxicated patients, Benforado and Associates found 8 untoward side effects in 174 patients receiving injectable Haloperidol.[18] The only severe reaction was anaphylaxis which required the use of epinephrine.[18] Their conclusion was that when dangerous aberrant behavior occurs during acute alcohol intoxication the use of drugs such as Haldol® can be valuable when dealing with problematical intoxication.[18]

Placement

Emergency room physicians are often confronted by an obnoxious, agitated or tremulous alcoholic brought in by desperate family members or local police officers. Frequently, hospitalization is not warranted and, in fact, most patients with mild withdrawal symptoms can be managed outside the hospital.[2] Emergency room personnel will find that development of working relationships with alcohol rehabilitation centers is useful. Without knowledge of available facilities, placement of these patients becomes a difficult time-consuming task. The remainder of this article will identify the various types of detoxification

facilities in Arkansas and discuss their respective admission requirements. (See Tables II and III).

The largest public facility is the Alcoholic Treatment Center located at the Benton Services Center, Benton, Arkansas. The program is state funded and provides free services to those who qualify for admission. There are no restrictions regarding age, sex, military history, or previous numbers of admissions. Patients may not return within three months of a routine discharge or within one year of leaving without completing the program. Exceptions are made for medical emergencies. The center is staffed by two full-time physicians and round-the-clock nursing personnel. The aforementioned center has an 80-bed capacity and is equipped to handle alcohol related emergencies, i.e., acute delirium tremens, alcoholic seizures and routine withdrawal symptoms. Prescription medications can be administered on a round-the-clock basis from the center's pharmacy of essential drugs. Detoxification is achieved using a medical regimen of thiamine, vistaril, magnesium gluconate, phenobarbital, diphenylhydantoin and multivitamin supplements. Benzodiazepines are used when indicated. Patients with acute delirium tremens are managed in an intensive care ward and given both oral and intravenous medications. Counseling is also provided, and patients are encouraged to affiliate with Alcoholics Anonymous. Antibuse is given routinely prior to and after discharge. Admissions are accepted 24 hours a day; however, physicians should phone ahead for referrals. No transportation is provided to and from the facility. Recreational drug abusers and psychiatric patients should be referred elsewhere.

Another public program facility, the Wilbur Mills Alcoholic Treatment Center, is in Searcy, Arkansas. This center has a 15-bed detoxification unit and is restricted to males 18 years or older. The program consists of 7 days of detoxification and an optional 3 week rehabilitative stay. The staff includes one part-time physician and several round-the-clock counselors. No patients with severe underlying medical problems or acute DTs will be admitted. Provided medications consist of Valium® during the 7-day detoxification period. There is no charge for the detoxification interim; however, a minimal charge is assessed for the optional rehabilitative phase. No transportation is provided to or from the facility.

The Veterans Administration Hospital offers an excellent detoxification program at the Fort Roots auxiliary in North Little Rock, Arkansas. This 120-bed facility is staffed by two full-time physicians and round-the-clock nursing personnel. The program can be completed in 37 days. The installation has a high occupancy rate, and all admissions are initiated through the Veterans Administration Hospital in Little Rock before transfer to Fort Roots. Four detoxification programs are available at Fort Roots, and several factors (including age) dictate which program is most appropriate for each patient. A prescription drug regimen is used to achieve detoxification. Alcohol related emergencies can be managed at the Fort Roots facility. Participants do have access to various facilities and ancillary personnel at Fort Roots.

The Arkansas State Hospital adjacent to the University of Arkansas Medical Center in Little Rock is primarily a psychiatric hospital and discourages admissions solely for alcohol withdrawal.

A number of private alcohol detoxification programs exist in Arkansas. Baptist Medical Center, Riverview Hospital, The Bridgeway Hospital, and Central Baptist Hospital are among those in the greater Little Rock area. (See Table II for complete list).

For various reasons, many times the alcoholic presenting in the emergency room is often not a candidate for any of the programs mentioned previously. If no medical emergency is present, the emergency room physician should consider a referral to one of the many shelters and halfway houses for alcoholics throughout the state. Most of these shelters do not charge. Many times these shelters and halfway houses are the only alternatives to admitting the patient. (See Table III for a complete list).

Outpatient treatment can be effective if a patient is highly motivated. The outpatient treatment regimens with regular follow-up have the highest percentage of success. This form of treatment allows participation with family members and friends and should be employed only when there is a proper environment. It should be kept in mind that 25 to 40% of alcohol patients will require at least one inpatient treatment for their disease.[2]

Summary

In conclusion, alcoholics commonly present to emergency departments with a variety of prob-

lems. Common complications that may accompany alcoholism include pneumonia, infection, trauma and bleeding. Since a high proportion of emergency service patients are affected by alcohol,[19] treatment facilities can aid in expediting an effective discharge of patients who might otherwise clog the emergency department for many hours. Halfway houses and outpatient treatment are alternatives to keep in mind when considering placement, especially for stable patients who are not candidates for these public or private detoxification programs.

TABLE I

MEDICAL, PSYCHIATRIC, LEGAL AND OTHER FINDINGS, SUGGESTIVE OR HIGHLY SUGGESTIVE OF ALCOHOLISM

Presenting Complaint and History

* GI bleeding, esp. upper
* Automobile accident
* Traumatic injuries, fracture
* Parent or relative alcoholic
*** Blackouts with drinking
* Alcoholic friends
* Sexual dysfunction
* Impotence
** Family violence
** Child abuse
** First seizure as an adult
** Job performance problem
*** Spouse/other complaints of patient's drinking
** DWI record
** Prison record

Drug Use History

**** Alcohol use interfering with health, job or social functioning
*** Patient says, "I can stop drinking anytime."
* Cigarette smoker
*** Patient states that he has stopped drinking completely for any length of time.
*** Word "drinker" said in rounds of report
* Other drug misuse

Physical Examination

*** Odor of beverage alcohol on breath
*** Parotid gland enlargement, bilateral
*** Spider nevi or angioma
*** Tremulousness, hallucinosis, and/or 1 or 2 seizures
*** Cigarette stains on fingers
* Hepatomegaly
* Splenomegaly
** Small testicles
** Unexplained bruises
** Many scars, tattoos
*** Edematous, "puffy" face (may be subtle)

Laboratory Abnormalities

**** Blood alcohol level greater than 300 mg.
*** Blood alcohol level greater than 100mg.
** Blood alcohol level positive, any amount
*** High serum osmortality (about 70% are alcoholic)
*** High serum ammonia
** High amylase
** Abnormal liver function tests
*** SGOT elevated on admission, normal by discharge
*** GGT elevation
* Hyperproteinemia—type 4 or 5
X-ray field findings:
* ——hepatomegally
* ——splenomegaly
*** ——pancreatic calcification
** ——"aspiration pneumonia"
* ——non-filling gall bladder
*** ——multiple rib fractures
** Anemia, macrocytic or megaloblastic
* Hyperuricemia (7 to 12 mg o/o most often)
* Small intestinal absorption test abnormalities
* Hypophosphatemia

Diagnosis

*** Pancreatitis, acute or chonic (40 to 95%)
**** Hepatitis, alcoholic
*** Cirrhosis (85%)
*** Portal hypertension
** Fatty liver

** Gastritis	** Drownings
** Refractory hypertension	*** Freezing or cold injury
*** Wernick-Korsakoff syndrome	** Burns, esp. 3rd degree
** Cerebellar degeneration	* Anxiety
** Peripheral neuropathy	* Depression
** Aspiration pneumonia	** Attempted suicide
*** Frequent automobile or other accidents	* Marital discord or family problems
	** Leaves hospital against medical advice

Key ****—diagnostic of alcoholism
***—75% or more are alcoholic
**—50% or more are alcoholic
*—25% are alcoholic

Adapted from Outpatient Management of the Alcoholic Patient[2]

TABLE II

PUBLIC AND PRIVATE DETOXIFICATION PROGRAMS

Public

Benton Treatment Facility for Alcoholics 371-1918, 371-1906
Benton, Arkansas

Wilbur Mills Alcoholism Treatment Center 1-800-592-9503
Searcy, Arkansas (MALES ONLY)

VA Hospital—Fort Roots facility 372-8361
North Little Rock, Arkansas
(VETERANS ONLY)

Private

Baptist Hospital 227-2893
Little Rock, Arkansas

Recover—Central Baptist Hospital 370-7507
Little Rock, Arkansas 1-800-632-0555

The Bridgeway Hospital 771-1500
Little Rock, Arkansas

Careunit—Riverview Hospital 375-5381
Little Rock, Arkansas

Charter Vista Hospital 521-5731
Fayetteville, Arkansas

Careunit—Sparks Regional Medical Center 1-800-854-0318
Fort Smith, Arkansas

South Arkansas Regional Health Center 862-7921
El Dorado, Arkansas

TABLE III

SHELTERS AND HALFWAY HOUSES

Little Rock
Other Way 568-1682
Serenity House* 372-9137
Salvation Army* 664-1577
24 Hour Club* 375-7585
24 Hour Club** 868-5184

North Little Rock
Serenity House* 372-9137

Harrison
Ozark Mountain Alcohol Treatment Center 741-1212

Hot Springs
Quapaw House* 624-1360

Springdale
Sobriety House* 756-1060

Russellville
Freedom House 968-7086

Fort Smith
Gateway Rehabilitation Dormitory** 783-8849
Harbour House* 785-4083

Pine Bluff
White House 535-6269

Texarkana
Dowd House*

Batesville
Hope House** 793-9711
Batesville Alcoholic Recovery Center* 793-6383

*Males only
**Females only

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Adolescent Suicide

H. Patrick Stern, M.D.*

Adolescent suicide is an epidemic for which no solutions have been found. There has been a 124% increase in the incidence of suicide in 15-19 year olds from 1961 to 1975 which accounts for a large part of the 22% increase in the total population.[1] Suicide was the second leading cause of death in Arkansas in 13-19 year olds in 1980 accounting for 23 deaths. Accidents accounted for 161 deaths and homicides 21. These figures reflect national findings. Malignancies, which is the fourth leading cause of death, is the first cause which is considered a "traditional medical problem" in this age group. Twelve adolescents died from malignancies in 1980 in Arkansas.[2]

Lethality is the most important concept for a physician dealing with a suicidal patient. This term is defined as the probability of an individual's killing himself in the immediate future. When lethality is high, the individual wants to die and anticipates his actions will result in death. Medium lethality means the individual is ambivalent about living with his actions playing some partial, covert, or unconscious role in compromising his safety such as the diabetic who does not take insulin. Low lethality occurs when the person is willing to take unknown risks such as abusing drugs.[3] The term gesture is often applied to suicidal behavior. A gesture is defined as a suicidal behavior which seems more dramatic and manipulative, more calculated to punish others, or gain attention and sympathy than a more "bona fide" suicide attempt.[4] This term has no value to the physician in the acutely suicidal patient and may be used to the patient's detriment. This happens when the concept is used as a rationale for minimal or no intervention being done. When this occurs, the physician has unknowingly increased the lethality risk for the patient. The use of the term gesture should not be used at the time of suicidal behavior or to define medical management, but reserved for the behavioral expert to use in formulating a dynamic understanding of suicidal behavior.

There are some major differences between those who suicide and those who attempt. The majority of suicides occur in males but 90% of attempts are by females. Successful suicide occurs largely as a result of firearms, whereas poison ingestion is the mode in attempts. Attempts are 50 to 150 times more common than suicides.[3]

Careful analysis of suicide attempts have shown these are rarely impulsive acts. They are found to be considered and planned acts weighed against other alternatives which if the purpose is not achieved will lead to increased lethality.[5] In one study of 1,103 patients between 6-18 years old of self poisoning, only 13% were found to be unintentional.[3] Another study did a careful psychological evaluation including an estimate of suicidal potentiality in 50 patients and 50 matched controls between the ages of 6 and 18 treated at two poison control centers. Although 42% were diagnosed initially as accidents with the remainder suicide attempts, the evaluations disclosed only 4% accidents with 72% attempts, 2% homicides and 22% intoxications.[3]

Suicide attempts are associated with long-term environmental problems including broken homes, and environmental changes. These problems are followed in the five years preceding the actual attempt with a constellation of findings. The patient typically develops behavior problems such as rebellion or withdrawal and school problems. Physical or mental illness frequently occurs in the patient or his immediate family, and peer relationships deteriorate. A "romance" stage precedes the actual attempt. This is the individual's last attempt at a meaningful relationship which inevitably fails as a result of the over dependent and controlling features of these patients. The final event that precipitates the attempt can be almost anything which psychologically makes the individual feel a loss.[5]

Adolescents saw their suicide attempt as bringing problems to others' attention in order to get help. Parents focus on the longstanding nature of the child's problem seeing the attempt as just more of the same issue.[5] When parental attributes were studied controlling for broken homes and economic status, parents of adolescents who attempted suicide were found to be more hostile and indifferent toward their child, displayed overt rejection and inconsistency with extremes of control than the control parents.[3] A typical dynamic sequence of the pathological parent begins with surprise and concern followed by guilt that quick-

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ly changes to anger toward the adolescent as they focus on this as just being "the same old problem." They then will become very hostile toward their child using massive denial that there is any problem and become indifferent to them (Table I.)[5] This reaction in a parent is essentially diagnostic of severe psychopathology.

TABLE I
Psychodynamics Of Pathological Parental Response To Adolescent Suicide

Surprise
↓
Concern
↓
Guilt
↓
Anger
(same old problem)
↓
Hostility
↓
Massive Denial
↓
Indifference

The dynamics of the suicidal adolescent are rooted in early childhood deprivation which is felt by the child as parental rejection. This rejection leads to feelings of inadequacy and worthlessness in the child that stimulates an increased need for the relationship. Since this need is still not met, an intense rage is felt toward the parent. This results in strong guilt as all young children feel it is wrong to hate your parents and puts the child in a helpless situation. An inability to deal with losses in relationships occurs in the child as well as an over identification with the "lost" parent. The child continues to strive to have the relationship which was never there. Then a real, symbolic or fantasized loss leads to the attempt. This allows the adolescent to psychologically punish the parent (anger) and themselves (guilt) in one act.[5]

Physicians must keep the issue of suicide in the front of their mind when dealing with adolescents. Sensitive questions should be asked if there is any possibility that the adolescent may be suicidal (Table II). Although an adolescent may display classic depressive symptoms, depressive symptoms equivalents must also be sought. These may include temper tantrums, boredom, restlessness, rebelliousness, defiance, "accidental" injuries, running, antisocial behavior, hypochondriasis, or school attitudinal changes.[6]

TABLE II
Questions to Ask to Elicit Suicidal Behavior

How bad do you feel?
Have you ever felt so bad life did not seem worth living?
Have you ever wished you would not wake up in the morning?
Have you ever thought about hurting yourself?

Every suicidal behavior must be taken seriously and at least a short hospitalization should take place. The hospital is the only place where the physician can implement effective suicide precautions. The "mothering" atmosphere of the nursing staff will generally decrease the risk immediately. Hospitalization will highlight the severity of the problem to the family and help break down their denial. Most importantly, it allows the physician to establish their "lifeline" to the patient.[5]

The doctor-patient relationship becomes the "lifeline" to the patient. The "lifeline" is that meaningful relationship to the suicidal patient that keeps them from harming themselves until self-protective behavior returns. More than one person should fill this role so the primary care physician assumes it in addition to other behavioral specialists. These individuals must be nonjudgmental and empathetic serving as a confidant for the adolescent. They should help define and solve particularly the immediate conscious issues of the patient and always be available. This will lead to developing trust and communication with the return of self respect, hope and optimism in the patient. The normal independent drive and secret keeping of adolescent behavior plus the inherent time it takes to form meaningful trust means it will take time for the "lifeline" to be established. Furthermore, the adolescent has abandoned talking as useful in problem solving. The creation of the "lifeline" is one of the critical reasons hospitalization is necessary.[5]

Suicide prevention will result from strong family and peer relationships and a productive educational experience. The physican should assess these areas throughout their care of the patient particularly at well-child visits. During adolescence, sensitive questions about the possibility of self destructive behavior should be asked of the

adolescent at all well-child visits or as indicated by acute problems. The physician should also clarify to adolescents that they are a resource that should be called upon if self destructive behavior seems like the only alternative to their problems. Physicians need to identify the early risk factors or suicidal behavior such as early relationship problems, change in behavior at adolescence, school problems, peer problems and classic or symptom equivalents of depression. Suicide, like other fatal problems in medicine, can only be treated by prevention.

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Confusion in Health Care
There Are No Simple Answers

Sister Margaret Vincent Blandford*

When deciding on a title for this article, "Confusion in Health Care," seemed the most appropriate. John Naisbitt, in his book, *Megatrends*, made a statement which illustrates what is happening in health care. He wrote, "Things are not going to get better, things are going to get different."

Sweeping changes are occurring which will affect the delivery and quality of health care services. Although these changes are getting considerable ink and air time, I'm not sure their real significance is seen even by professionals in the field . . . much less by the men and women on the street. And yet, they will affect us all. What has brought this about: an effort by the federal government to reduce the amount of money being spent for Medicare services, escalation of health care costs, the call by Congress to reduce the large federal budget deficit, diversification of services taking place in health care, third party payors and employers are looking for ways to reduce payments for health care premiums. Health care is in a period of transition and the trend is away from hospital inpatient care to health care. Health care is a much broader term (e.g., outpatient services, PPO, HMO, wellness programs, surgi-centers and emergency centers).

Medicare reimbursement is one area where change is taking place. It is predicted that by the year 2000 the number of Americans over 65 will increase 38% and the number over 75 will grow by more than 60%. Health care, which is using 10.5% of the GNP, has become an important and much discussed political topic. Implementation of the Social Security Reform amendments of 1983 and the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) are expected to reduce federal Medicare and Medicaid expenditures by $15 billion over the next three years to relieve the fiscal pressures on the Social Security Trust Fund. The most significant implication of these new laws may not be the well-publicized features of a prospective reimbursement or Diagnosis Related Groups, but that the federal government health policy has taken a magnum step by saying it intends to reduce the public share of the cost of providing health care to the aged and anticipates that providers will either function at higher levels of productivity or operate at significant fiscal deficits.

Some good news is that hospitals have slowed the increase in total expenditures from 15.8% in 1982 to 10.2% in 1983. Prices of goods and services purchased by hospitals climbed 6.9% last year. This is the smallest rise in hospital input prices in over a decade.

Third-party reimbursement to meet operating expenditures when adjusted for new technology and inflation will decline in a decade when 25% of the nation's institutions are already operating in the *red* and capital requirements are at an all-time high. Three recent studies point to capital needs ranging from $87 to $215 billion by 1990 with only about 25% being allocated for expansion purposes. The capital requirement for investment in hospital plants and equipment during the 1980s is 3.4 times the dollar volume of hospital construction undertaken through the 1970s (approximately $48 billion). Even if the capital markets were able to finance all the replacement of buildings and equipment required in the foreseeable future, the federal concern is that Medicare and Medicaid may be responsible for 40 to 45% of this cost, particularly if capital expenditures continue to be a *pass-through* in the Medicare reimbursement methodology. The federal government possibly including capital cost as part of the Diagnostic Related Group rate after 1986 could be interpreted today as an incentive to reduce construction-renovation projects now planned. National trends show that we have now built too many acute care beds. This is very true in the State of Arkansas and especially in the Little Rock area. Patient days have decreased 3 to 10% on a national level and this trend continues.

The number of available physicians is increasing, and at the same time the volume of total hospital days, emergency room visits and referred ambulatory care services are leveling off or decreasing in many sections of the country. Reasons for decrease in hospital utilization are:

- Medicare Prospective Payment.

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- Business Health Care Coalitions.
- Competition from new alternative health care providers.
- New technology which prevents admissions and shortens the hospital stay.
- New financial incentives for patients to stay out of hospitals.
- Growing number of physicians who are willing to work for HMOs and minimize hospitalization.
- Growing consumer sophistication about second surgical opinions and outpatient services.
- Lingering effect of the 1981-82 recession.
- Consumer is healthier because of a change in lifestyle.

Others believe that the pro-competition theme is having some effect on both prices and cost. I know that it is having an effect.

In the past, hospitals have been reimbursed retroactively by Medicare for whatever reasonable and necessary medical services the Medicare patient received. Since the inception of the Medicare program, there has been a gradual increase. Payment was determined after discharge, based on the length of stay and services provided. To slow the rate of increase in hospital costs and reduce Medicare costs, the federal government has initiated a "prospective payment" system under which hospitals are paid a fixed amount based on the Medicare patient's diagnosis. This new payment assumes that the patient received a standard mix of services for that diagnosis. It is related neither to the patient's actual length of stay nor to the services actually provided. The old system encouraged the hospital and the doctor to do whatever was necessary to best treat the patient. This was good from the patient's perspective . . . but expensive, since there was no financial incentive to limit costs. Under the new system, there is a strong financial incentive to limit treatment and discharge the patient as soon as possible, since the payment to the hospital will be essentially the same whether the stay is shorter than average or longer. The new system raises several disturbing questions.

Questions To Be Answered

a) Will reimbursement be adequate?
 (1) It is too early to tell.
 (2) Many hospitals are already experiencing some severe financial difficulties. It is predicted that one in six hospitals will close in the next five years. Layoffs of employees is happening in hospitals for the first time in history.
 (3) St. Vincent Infirmary starts under the prospective reimbursement system on September 1, 1984. One normally expects difficulties during these times of implementation. This new program will be phased in over a four-year period. Health care is highly regulated and at the same time we are asked to respond to competition.
 (4) Flaws in the new system — Our great concern is preventing inequities in payment. Hospitals are very different in operation.
 (a) New payment program does not take into account differences in severity of case-mix. (470 classifications)
 (b) Case-mix indices and cost weights used to compute DRG prices are flawed. Different socio-economic characteristics of patients and how they affect recovery. Other concerns or inequities in the wage index and urban and rural hospitals have not been explained adequately.
 (c) There has been no decision yet as to how capital expenditures will be handled. The past method was a pass-through for capital payments. By 1986 this capital question must be decided.

b) Can a hospital introduce sufficient economies in operations to offset reduced revenue without lowering the quality of service? (Maybe, not sure.)
 (1) Largest part of hospital cost is for labor and it requires 56¢ of each dollar. Patient care is labor intensive, requiring different kinds of professional skills and 24-hour care. As labor costs are trimmed, it is likely that both the speed and quality of services provided may suffer. Hospital care also consists of expensive technological equipment. Medicine has done too good a job by increasing the life span. This has placed a financial burden on Medicare funds. Reduced stay has been the outcome of technology.
 (2) Almost certainly some very desirable, but not-absolutely-essential services may have to be trimmed.
 (3) Hospitals may have difficulty in keeping

wage levels high enough to attract high quality young people into the health-related professions.

(4) There may be a trend to lower skill nursing levels. The recent trend to high ratios of RNs to LPNs may be reversed. Yet trends show the consumer is demanding greater payments for any unsatisfactory outcome of the illness which only increases costs for liability insurance for the hospital and physician.

c) What other ways might the hospital patient be affected?

(1) Patients will be discharged earlier . . . possibly *too soon*. Continued stay beyond that medically necessary (for example, for the convenience of the patient where there is nobody to care for the patient at home) will be eliminated. Can families or skilled nursing homes take up the slack? There is a difference between a skilled nursing home and a regular nursing home. There is a scarcity of skilled nursing beds in Arkansas in spite of the high percentage of elderly citizens in the state. Home care is one of the choices now being considered to shorten a patient-stay in the hospital.

(2) There may have to be two levels of care — those who can pay, those who can't. Other countries permit these different levels. Or "rationing" of hospital services is a strong possibility. Decisions relating to ethical and moral options will have to be faced. Would a national health program be the panacea to these questions? Some consumers may agree.

(3) Unreimbursed Medicare charges may be cost-shifted to other payors. But Blue Cross and other insurers are already developing similar prospective reimbursement plans. Medicaid, the State program, which is responsible for health to a certain level of the poor is now going to prospective payment.

Medicare in the past paid hospital reasonable costs, according to a specific formula, but did not pay hospital charges. Therefore, the Medicare allowance difference between costs and charges at St. Vincent Infirmary was $8,435,000 the last fiscal year. This means that this portion had to be included in payments by patients who could pay. The total allowances given plus the uncollectible accounts amounted to $13,617,516 this past year at St. Vincent Infirmary.

The question of who should be responsible for the poor and those unable to pay for services has never been decided in the United States. A national policy is needed so that those unable to pay for health care services would be covered.

(4) Since the most "profitable" portion of the hospital stay is usually the first few days of admission (when ancillary services are most heavily used), there is concern that the same hospitals, which make special efforts to attract short-stay patients, will drain off the profitable business. If that occurs, regional medical centers will have difficulty maintaining their financial soundness. This is compounded by the fact that a good part of the patient's maximum DRG payment may be used up before the patient is transferred to the regional medical center. Might a hospital change its mix of services, concentrating on those which appear to be profitable? If so, who will provide the "unprofitable" services? The impact of all of these trends is amplified by the trend toward fewer hospital admissions and the growth of outpatient services.

(5) Effect of Competition — Every magazine one reads gives examples of the effect of competition in health care as health care services are diversified outside the hospital setting, as well as inpatient services. There will be more negotiating for the lowest price for health services. Industry is now forming coalitions which will be seeking ways to reduce health care costs as they relate to hospital services. And this will include physicians. A good article to enhance your education on the above topic is *Nation's Business*, April 1984, issue.

d) What are the answers?

So far, it's much easier to predict the problems than to find the answers. Anytime there is a new program, it is only natural to become fearful as one has to learn how to implement the program with new rules. Hospitals are resourceful and resilient. But they must change.

Hospital management shares the concern of the public at large over the rapid increase in hospital costs during the past 10 years, and recognizes the need to significantly slow that growth. But we are equally concerned that cost-saving measures do not destroy the hospitals' ability to continue to provide the kind of quality that consumers have come to regard as their right. The United States has a great health system but since resources are limited, we have to evaluate the amount of money to be spent on health care. Will financial concerns dominate the traditional values which have been the hallmark of nonprofit hospitals?

That possibility causes us great concern at St. Vincent Infirmary where compassion, concern, respect for the dignity of each patient and a high quality of service has been an important belief in our mission of caring for the sick since 1888.

There are no easy answers to these questions. But we must begin searching for them — together. Who are "we?" Providers, physicians, consumers, employers, insurance companies, federal and state government. We are all in this together and pointing a finger at one or two groups will not solve the questions raised.



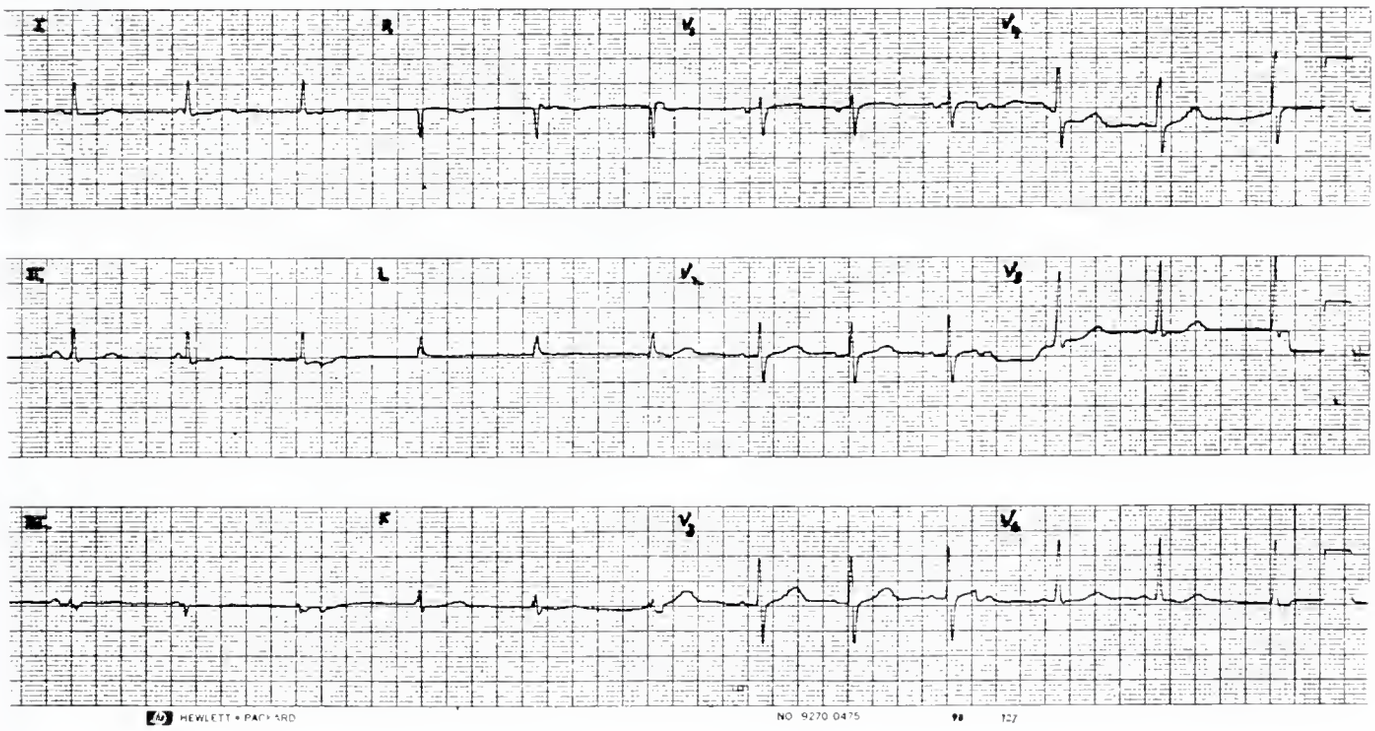
ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 138)

HISTORY: K. M. is a 35-year-old woman who had this electrocardiogram done as part of a pre-employment physical examination. She has neither current nor past cardiac symptoms. She jogs and is able to do five miles in forty minutes, developing only mild shortness of breath and knee pain near the end of her runs. Her physical examination is normal. Several options for evaluation and/or therapy are listed below. Which are most probably the best choices?

1. Temporary pacemaker for 3 days in the CCU (cost $1,000)
2. Permanent pacemaker (cost up to $5,000)
3. His bundle study (cost $800)
4. Exercise ECG in your office (cost $175 max.)
5. Start oral Atropine (side effects!)
6. Reassure her about her heart and consider some orthopaedic advice (cost—your usual office fee)



Andy Henry, M.D.

John W. Watson, M.D.

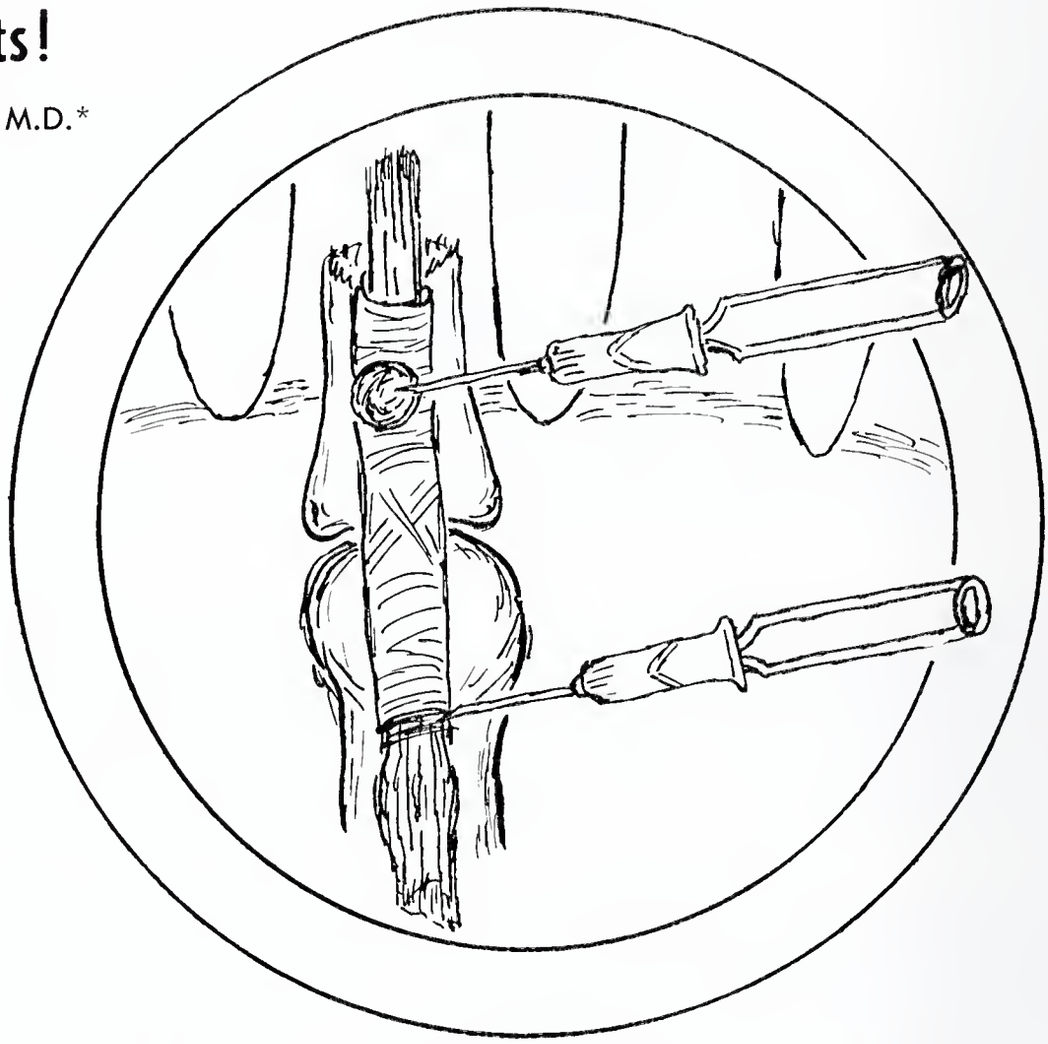
UAMS-VAMC Division of Cardiology



Office Orthopaedics

Two Shots!

Kenneth G. Jones, M.D.*



Even the best shots of the Old West were not always sure. The numerous celebrated boothill cemeteries are moot evidence of this fact. Unfortunately, on occasions, the therapeutic shots of the physician also fail to achieve the result sought. There are, however, two frequently encountered pathological entities affecting the flexor tendon sheath of the digits of the hand, occurring about the metacarpal head, which may be controlled by a shot thereby precluding the necessity for surgery.

Ganglia frequently arise from the palmar aspect of the flexor tendon sheath at the level of the proximal finger crease, opposite the web space. These round-firm lesions, thought to be related to stress, can be readily palpated through the overlying mobile skin. They are, as a rule, tender, when seen by the physician, and are intimately attached through a broad base to the underlying tendon sheath. Their diameter may vary between three to ten millimeters. The remainder of the examination of the finger is usually normal as are roentgenograms. On occasions, the mass is recognized by the patient to have been recessive and recurrent which would seem to establish the diagnosis of a cystic lesion.

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Management can be as simple as directing the patient to avoid pressure in the area or as extensive as surgical excision under a local anesthetic. However, an office treatment which may be successful consists of a single shot. In this instance, a tuberculin syringe with a 25 gauge, 5/8 inch needle attached is used to draw up 0.1 cc of an injectable steroid and 0.4 cc of a 1% local anesthetic. After prepping the skin over the mass, the needle is introduced directly into the tumor, withdrawn into the subcutaneous tissue and then reintroduced into the tumor. This process is repeated three or four times while the surgeon massages the area with the thumb of his other hand. If the lesion is, as suspected, a sac filled with synovial fluid, as the fluid leaks into the surrounding tissues, the mass disappears. The therapeutic agent is deposited in and about the synovial sac, but not into the sheath or the underlying tendons. A significant number of these small lesions arising from a defect in the tendon sheath will heal without further intervention. Some will recur. Should it do so, surgical removal under a local anesthetic should prove effective if symptoms warrant. Since these are benign lesions, the patient should make this determination.

The second shot employed in this area is given for a stenosing tenosynovitis of the flexor tendon sheath. It is administered at a more proximal level than that for the usual ganglia. These individuals present their hands for evaluation because of pain and/or locking of one of the digits. They often believe that the affected digit literally jumps in and out of place on flexion and on extension. When the thumb is involved, the shock associated with the triggering mechanism may convince the patient that the pathology is in the interphalangeal joint. Even so the source of almost all such complaints can be readily found to be located on the palmar side of the hand just proximal to the head of the metacarpal of the involved ray; that is, at the level of the proximal end of the A-1 pulley of the flexor tendon sheath. Frequently the physician can palpate a fusiform swelling of the tendons (FDS and/or FDP) as they pass beneath this structure. On active flexion this movable enlargement can be felt by the physician as it passes beneath the pulley mechanism into the palm of the hand. On extension, either passive or active, the swelling will suddenly disappear beneath the pulley as it descends into the tendon sheath of the digit. These motions are usually associated with pain. Pain can also be elicited on palpation over the mass. If the incongruity of the proximal pulley mechanism and the tendons (usually the FDS) is significant, the snapping and the discomfort experienced by the patient may be marked. Any of the fingers or the thumb may present this picture. The shock generated by the swollen tendon passing beneath the constriction is less inclined to direct the patient's attention to an interphalangeal joint when the fingers are involved than when the thumb is affected. Once more, further examination of the involved digit and review of the radiograms will not demonstrate any abnormality.

When limitation of hand activities fails to control symptoms and additional treatment is required, once again an injection is justified. In this instance, the syringe is loaded with an injectable steroid (0.3 cc) and a 1% local anesthetic agent (0.7 cc). The 25 gauge, 5/8 inch needle is introduced obliquely through the skin into the tendon sheath at a point just proximal to the metacarpal head. An effort is made to inject the therapeutic agent within, into, and about the tendon sheath but not into the tendons. However, considering the small amount of steroid used in this maneuver, tendon damage as a consequence of Cortisone infiltration into these structures, would seem to be unlikely. Chances of controlling the patient's symptoms by this means may be as great as 50%.

While the result achieved by either of the two shots considered will not always be on target, this approach does constitute a rational and reasonable means of management for these two ubiquitous entities by primary care physicians.





PUBLIC HEALTH AT A GLANCE

Health Update on Sulfites in Food and Drugs

David M. Oberste, R.S., MHSA*

The use of sulfiting agents in food and drugs is becoming a source of increasing concern to the medical and regulatory communities as a result of recent reports of the alleged role of sulfites in the initiation of asthmatic reactions.

Isolated reports suggesting that foods containing sulfites might induce bronchospasm in asthmatic patients began to appear in the 1970's. As of July 1, 1983 the Food and Drug Administration had received reports of approximately 90 cases of adverse reactions, including one death reportedly caused by ingestion of sulfites in foods. The FDA had also received a few reports of adverse reactions experienced by food service personnel who handle sulfites and by persons taking prescription medications containing sulfites.

"Sulfiting agents have enjoyed a long history of effective use as food and drug ingredients for many important technical purposes, but mainly as an antioxidant. The ancient Greeks are supposed to have used SO_2 for the fumigation of houses. The Romans and Egyptians are supposed to have used SO_2 for the sanitation of wine vessels. Its use as a food preservative dates back to at least 1664 when cider was added to flasks while they still contained SO_2. The inorganic sulfites appeared as food additives at a much later date. The first years of use of the various inorganic sulfiting agents in the U.S. are: sodium bisulfite, 1921; sodium sulfite, 1930; potassium and sodium metabisulfite, 1939. The sulfiting agents were first used in wine and beer. Among non-alcoholic products, the sulfiting agents were in all likelihood first used on dried fruits and vegetables. However, their use in foods spread rapidly as a consequence of the absence of observable toxic hazards and their widespread functional effectiveness. (Foods represent one of the larger uses for these substances)."

Because the chemicals' antioxidant properties keep fruits and vegetables looking fresh, their use in restaurants has increased in the last few years due to the increasing popularity of salad bars. The chemicals are also used in many other restaurant foods, especially seafood and fried potatoes.

In addition, sulfites are used in many processed foods, including fruit drinks, beer, wine, baked goods, dried fruits and vegetables, and in the processing of some food ingredients, including gelatin, beet sugar, corn sweeteners and food starches.

Sulfurous acid salts have also been employed as drug ingredients for many years. Their use dates back to at least 1940 and probably earlier. The inorganic sulfiting agents are used primarily as antioxidants in various pharmaceutical formulations. The sulfiting agents have been utilized widely in drug formulations because of their effectiveness and comparatively low cost. Sulfiting agents have been used in sympathomimetic amines, sulfonamides, antiobiotics, steroids, vitamins, dextrose solutions, eye medications, antisyphilitic drugs, indigocarmine solutions, anticoagulants, heparin, phenothiazine compounds, bronchodilators, local anesthetics, and morphine. They are not the only antioxidants available in many cases. Although the levels of use of the sulfites in drug formulations have not been strictly regulated, they have historically been used at the minimal concentrations necessary to provide adequate antioxidant protection.

The symptoms that may represent an adverse

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reaction to sulfiting agents include anaphylactic reactions such as: flushing, angioedema, hives, laryngeal edema, hypotension, cyanosis and wheezing, generalized itching, anaphylaxis, and respiratory arrest; loss of consciousness; and contact dermatitis.

The fact that some bronchodilators contain sulfites also poses some additional potential problems in the treatment of asthmatics. The clinician could have difficulty determining whether the asthmatic patient is having a paradoxical reaction to the sulfiting agent or is not responding to the medication. It is also possible that the bronchodilator medication may give some protection against the effects of the sulfites, and that asthmatics could be at greater risk from other sulfite-containing drugs.

Since 1959, six sulfiting agents have been listed as Generally Recognized as Safe (GRAS) for use in food: sulfur dioxide, sodium sulfite, sodium and potassium bisulfite, and sodium and potassium metabisulfite. There are no restrictions on the use of sulfite in foods except in meat and other foods recognized as sources of Vitamin B_1 (thiamine) where their use is prohibited. There has also been some concern that various food items on salad bars could be classified as sources of Vitamin B_1 and that the use of sulfites should be prohibited in these items.

FDA's only regulatory action to date is an interpretation of the Model Food Code (not adopted in all states) for retail establishments. The Codes (for food service, food store, food vending) provided that "Food shall be . . . safe for human consumption." The FDA has interpreted this to mean that food intended for sale or service in the raw state and which has received treatment with sulfiting agents at the retail establishment will now be considered safe under the provisions of the model food sanitation codes (only if consumers are acceptably informed that sulfiting agents have been added).

The Food and Drug Administration's long time view has been that labeling is the route to take in reducing dangers from substances which have important uses but can cause reactions in a small percentage of the people. In the case of asthmatic reactions to sulfites, once an individual has had a reaction to a substance, avoidance of that substance is many times the best alternative. Physicians may want to remind asthmatics and patients who are or may be sensitive to sulfites to read the labels of packaged foods and drugs to see if the product contains sulfites and to ask before ordering at a restaurant or retail food store produce area if the establishment has treated the food with sulfiting agents.

The FDA has advised companies operating interstate conveyances and catering points that consumers must be notified of the use of sulfiting agents on foods intended for raw consumption. They have notified state officials that establishments using sulfiting agents should so inform customers by posting conspicuous and easily readable signs, placards, labels or menu statements. The Agency is also working with drug manufacturers to explore the feasibility of substituting other antioxidants as well as use and labeling restrictions.

While the evidence supporting the role of sulfiting agents in the initiation of asthma in certain individuals is strong, further research is necessary to define the magnitude of the problem, the mechanism of the reaction, and the role of the sulfited foods, if any, in the reaction.

Many important questions remain unanswered concerning the use or regulation of sulfites in food and drugs. The only studies done to date with humans involving sulfites have involved capsule administration. In addition, nobody has isolated the component causing the problem. It may in fact be only one of the sulfites, or may not be a sulfite at all.

Research into the study is already underway. Dr. Steve Taylor, Food Research Institute, University of Wisconsin, Madison, has begun a three year study challenging sulfite sensitive people with sulfited foods. A coordination of effort by all researchers in this area has been requested so that individual researchers can apply new results to their current projects with as little time lag as possible.

With the conquest and near elimination of many of the now preventable diseases, we have a tendency to take for granted our good health. The role of Public Health in today's environment is still directed toward prevention, however, the accomplishments that are made in Public Health today are not as easily recognized as they have been in the past.

The identification that sulfiting agents used in

food and drugs must be responsible for reactions observed in a small percentage of asthmatics seems far less significant than the cure for polio, etc.; however, preventative measures can also be taken here to ensure that the continued good health of the American public is maintained.

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Pediatric Update:

The Assessment of Wheezing in Infants and Young Children Utilizing Respiratory Inductive Plethysmography: A Case Report

Robert Hughes Warren, M.D.* and Sheila Horan Alderson, R.R.T.**

INTRODUCTION

Wheezing as clinical evidence of ventilatory dysfunction is common in a wide variety of pediatric pulmonary disorders including asthma, croup, cystic fibrosis, bronchopulmonary dysplasia, congenital anomalies, and bacterial and viral infections of the lower respiratory tract. Whatever the final trigger, there are anatomical reasons why infants and young children may be more prone than older children to symptomatic airflow limitation. Airway dimensions, from the trachea to the respiratory bronchioles, are all smaller in infancy than in later childhood, rendering them more easily obstructed.[1] The more compliant chest wall of the infant provides little resistance to the elastic recoil of the lung, so that even during normal tidal breathing, some airways close towards the end of expiration. The rigidity of the cartilage supported walls of segmental bronchi and trachea may be less in infancy. This allows the airway to collapse more readily during an expiratory effort, producing audible wheezing and increased work of breathing during an acute process.

In the large pediatric population with lung dysfunction, wheezing can persist or reoccur despite intensive medical intervention with oral and aerosol bronchodilators, decongestants, and steroid therapy. This is an implication that the wheezing may be irreversible or that the dose was not sufficient to resolve smooth muscle contraction. Titrating bronchodilator doses according to the display of side effects is a commonly used method of prescription. Paradoxical responses and blunted bronchodilatory responses observed in some pediatric wheezers following therapy may be due to an irreversible wheezing component, drug reaction, or poor penetration due to mucus plugging. Quantitative measurement of airway responsiveness would help eliminate the trial and error approach to therapy.

No objective ventilatory function testing procedures that are practical or easily reproducible are available for children less than 6 years of age. Yet this age group represents a significant number of the total pediatric wheezing population. Assessment of wheezing in this age group utilizes auscultation and clinical evaluation of the signs of dyspnea including suprasternal, intercostal, and subcostal retractions, increased respiratory frequency, and head bobbing. Pediatricians following the pulmonary problems of children could benefit from objective evaluation of the degree of smooth muscle relaxation following bronchodilator therapy.

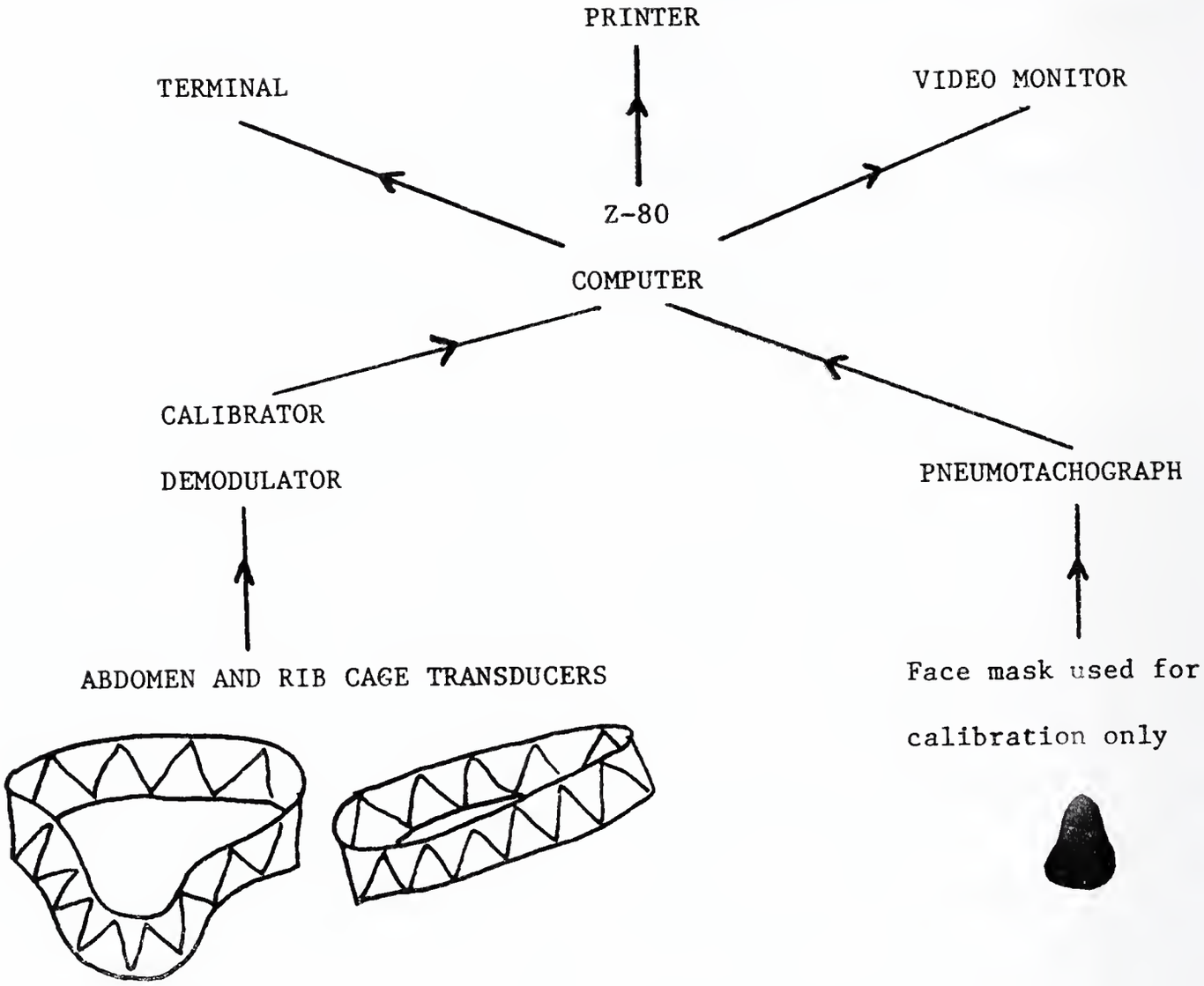
A NEW METHOD

The respiratory inductive plethysmograph (Respicomp™) is a ventilatory monitoring system that is presently undergoing clinical testing in the evaluation of lung function in infants and young children at Arkansas Children's Hospital. This system is designed to allow assessment of infants and young children who are unable to be tested with the conventional types of pulmonary function testing equipment requiring subject cooperation.

The Respicomp™ system is composed of several pieces of equipment connected by a computer.

Descriptions of the respiratory inductive plethysmograph (Respicomp™, Non-Invasive Monitoring System, Inc., Ardsley, New York) have been published.[2,3,4] The device consists of two coils of Teflon-insulated wire sewn into an elastic band. One elastic band is placed about the rib cage (RC) and the other is placed about the abdomen (AB). Ventilatory movements change the

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inductance (I) of each transducer coil proportionally to the change in the circumference of the RC and AB compartments.[5] Simultaneously, volume measured at the mouth by integrated pneumotachography allows the resultant proportional voltage changes of the transducers to be calibrated so that the RC and AB sum is a quantitative measure of tidal volume. A least squares linear regression equation (LSQ) is used to calculate the scaling factors for the electrical gains of the RC and AB amplifiers. The capability of calibrating the respiratory inductive plethysmograph (RIP) is dependent upon the respiratory system having two independent moving parts, the rib cage and abdomen, with the sum of the two being equal to a given volume.[6] Thus, volume equals $(AB \times I_{AB}) + (RC + I_{RC})$ where I_{AB} and I_{RC} are the changes in inductance compared to a known volume. The LSQ method of calibration reflects the proportionality of the sum equaling a constant value and is calculated with the integrated pneumotachograph (PNT) as a reference. This is expressed $RC/PNT + AB/PNT = 1$.

The calibration technique of this study utilized the selection of two breathing points with different RC/PNT and AB/PNT values representative of two breathing patterns. Calibration factors describing the electrical gains of the RC and AB channels calculated by the LSQ method were manually entered into the calibrator-demodulator.

Following calibration, the accuracy of the gain factors are validated by comparing volume measured RIP to volumes measured by integrated pneumotachography and are expressed as percent deviation from the pneumotachograph obtained volume $\left\{ \frac{\text{RIP - PNT}}{\text{PNT}} \right\} \times 100$. A deviation of $\pm 10\%$ between RIP and PNT over a minimum of 6 consecutive breaths is accepted.[7,8]

Once calibration and validation is completed with confirmation of accurate calibration factors, ventilatory data can be obtained without connec-

tions to the nose or mouth or subject cooperation requirements. Respicomp™ has potential adaptability to the infant and young child populations as a method of assessing ventilatory patterns.



Respicomp™ continuously calculates minute volume (MV), tidal volume (VT), respiratory frequency (f), inspiratory time (TI), expiratory time (TE), inspiratory flow (VT/TI), expiratory flow (VE/TE), percent rib cage contribution to tidal volume (% RC/VT), and maximum compartmental amplitude to tidal volume (MCA/VT). MCA/VT is an index providing information on the overall synchrony of the rib cage and abdomen. When the rib cage and abdomen are in synchrony, the ratio MCA/VT is equivalent to 1.00.[9]

Evaluation of ventilatory parameters measured by Respicomp™ during periods of steady state breathing can provide the clinician with objective measurement of the degree of airway dysfunction. When clinical assessment is suggestive of airways disease evaluation of ventilatory parameters before and after the administration of bronchodilator medication may provide information on the potential of reversibility. Respicomp™ can apply Mann-Whitney statistical analysis to show the significance of ventilatory pattern change following bronchodilator.

The utilization of RIP as a clinical tool in assessment of lung function in infants and young children is under investigation at Arkansas Children's Hospital. The technique of calibration may be performed in the quiet, postprandial newborn. It is more difficult in the older infant who is stimulated by the face mask application. Often initial evaluation determines that the subject requires a mild form of sedation. Chloral hydrate (80-100 mg/kg) is used if sedation is required for test performance. The literature reports no interference with respiratory center drive or chemoreceptor response by chloral hydrate.[10]

TABLE 1
ZB Calibration and Testing Results*

Age: 23 months *Sex: Male* *Weight: 14.2 kg* *Height: 90 cm* *Diagnosis: Asthma*
RC gain factor 0.22
AB gain factor 0.24
2 validations $\left\{ \frac{\text{RIP - PNT}}{\text{PNT}} \right\} \times 100 = 1.03$ (+ 3% error) and 1.01 (+ 1% error)
2 revalidations after data collection
$\left\{ \frac{\text{RIP - PNT}}{\text{PNT}} \right\} \times 100 = 1.02$ (+ 2% error) and 1.01 (+ 1% error)

parameter	units	pre	post	% change	p value
Respiratory frequency	B/M	51	31	39% decrease	< .002
Tidal volume	ml	126	67.5	46% decrease	< .002
Minute volume	L	6.77	2.22	67% decrease	< .002
Max. compartmental amplitude/tidal vol	ratio	1.28	1.16	9.3% decrease	< .002
Inspiratory time	sec	0.464	0.800	72% increase	< .002
Inspiratory flow	ml/sec	255	91.3	64% decrease	< .002
% rib cage/tidal vol	%	54	26.3	51% decrease	< .002
Expiratory flow	ml/sec	206	58.8	72% decrease	< .002
Expiratory time	sec	0.864	1.19	38% increase	< .002

Aerosol bronchodilator: 0.2 cc metaproterenol sulfate 5%
No sedation required

*Mean ventilatory parameter values over one minute

CASE REPORT

On 1-24-84, ZB was brought to the Infant Pulmonary Function Laboratory for ventilatory pattern analysis pre and post aerosol bronchodilator. ZB was a 23-month-old white male diagnosed with asthma at the age of 12 months. He had been steroid dependent for several months and required multiple hospitalizations for acute exacerbations triggered by upper respiratory tract viral infection and allergy.

Ventilatory pattern data was obtained with ZB laying supine during 1 minute of quiet breathing. No sedation was required. A dose of metaproterenol sulfate 5% 0.2 cc diluted in 2.0 cc normal saline was then administered by small volume nebulizer through a mouthpiece with 6 1/m air. Ten minutes after the aerosolized bronchodilator, one minute of ventilatory pattern data was again recorded. Table 1 illustrates calibration data and testing results. The dose of aerosol bronchodilator demonstrated an improvement of ventilatory pattern in this 23-month-old male.

Ventilatory Pattern Analysis

Following an aerosol bronchodilator, the ventilatory pattern of ZB changed significantly as evidenced by the p value for all parameters. Respiratory frequency decreased by 34% demonstrating an improvement in tachypnea. Consequently inspiratory time and expiratory time became longer resulting in a more even distribution of volume throughout the airways. Both tidal volume and minute volume decreased with a resultant decrease in dyspnea. The maximum compartmental amplitude to tidal volume ratio decreased by 9.3% from 1.28 to 1.16 suggesting a change post-bronchodilator towards a more synchronous movement of the rib cage and abdomen. A fifty-one percent decrease of the % rib cage contribution to tidal volume post-bronchodilator suggested that ZB had a reduction in the use of assessory muscles of ventilation. All parameters measured by Respicomp™ suggested a significant positive response to 0.2 cc of metaproterenol sulfate delivered by aerosol.

SUMMARY

As the case report demonstrates, the respiratory inductive plethysmograph (Respicomp™) has potential for providing the clinician with objective ventilatory function measurements on children unable to cooperate with conventional methods of measuring pulmonary function. Changes in mean inspiratory and expiratory times, volumes, and flows, can demonstrate airway reactivity to bronchodilator medication. Longitudinal assessment may allow and prevent prolonged experimentation. Application of respiratory inductive plethysmography to determine ventilatory patterns has potential clinical usefulness for the physician in search of objective information on the effects of bronchodilator medication in wheezing infants and children.

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EDITORIAL

The Renal Syndromes and Non-Steroidal Antiinflammatory Drugs

Alfred Kahn, Jr., M.D.

Clive and Stoff have reviewed the "Renal Syndromes Associated with Nonsteroidal Antiinflammatory Drugs" (*New England Journal of Medicine,* Volume 310, page 563, March 1, 1984). This is a very important article inasmuch as the use of nonsteroidal antiinflammatory drugs (NSAIDs) are so widely used. The authors indicate the one out of every seven Americans will probably use NSAIDs at one time or another. They further point out that, although the gastrointestinal problems associated with NSAIDs are encountered by and known to many physicians, the renal toxic effect of these drugs has not been as widely understood by practicing physicians. The renal syndromes related here include: Acute renal failure, chronic renal injury, nephrotic syndrome, interstitial nephritis, abnormalities of water metabolism, abnormalities of electrolyte metabolism. It appears that the NSAIDs have a common property which is of interest therapeutically, namely, they inhibit cyclooxygenase; this is an enzyme of considerable importance in the synthesis of prostaglandins which are said by the authors, and others, to act as so-called local hormones; they are further reported to be synthesized and used within a very short period of time. Prostaglandins help control renal function and play a very important role in the physiology of the kidney. Clive and Stoff state that they help in the autoregulation of renal blood flow, glomerular filtration, adjusting the amount of renin released, tubular ion transport, and water metabolism. The authors further state that in their opinion the decrease in prostaglandin manufacture will be the trigger event in starting abnormalities in the kidney—and may lead to various renal syndromes.

The authors state that outside sources of prostaglandins of the E, D, and I types cause dilatation of the renal blood vessels—and it could be inferred from this that if prostaglandins are not available, renal blood flow and infiltration rate may decrease; apparently, this will not occur in a normal health setting, but definitely occurs if there is an associated or preceding "hemodynamic insult." Some of the hemodynamic insults which are reported as being significant include hypotensive hemorrhage, salt depletion, general anesthesia, biliary cirrhosis, and heart failure. It is said in this article that salt depletion can lead to a decreased renal function when prostaglandin function is inhibited; it is said that the hypovolemia results in pressor mechanism by adrenergic and renin angiotensin functions. This is counteracted by renal dilatation by prostaglandins. If the prostaglandin function is abolished, renal hemodynamics suffers. Clive and Stoff say a similar effect occurs in the presence of heart failure and cirrhosis in which they describe a functional hypovolemia which, in turn, stimulates the outpouring of renin and angiotensin; if prostaglandins are inhibited in this scenario, then renal function falls off. Some of the drugs which commonly cause these changes are aspirin and indomethacin. Of particular interest here is that some individuals given diuretics may develop a decrease in renal function if NSAIDs are given; the only diuretic involved in this reaction is triamterene. Nephrotic patients often have hypovolemia and they are often treated with salt restriction. Indomethacin is said to cause an important decrease in renal blood flow and glomerular filtration in some of these individuals.

Clive and Stoff state that in intrinsic renal disease there may be some relatively uninjured nephrons which are functioning maximally because of renal prostaglandin stimulation. If the prostaglandin stimulation is decreased by

NSAIDs, renal function tends to fall off detectably.

Of interest is the fact that the authors state that some types of acute renal failure resulting from NSAIDs therapy is not caused by reduced prostaglandin manufacture. They cite Phenylbutazone as causing an anuric state at times due to uric acid stones forming in the ureters due to failure of uric acid to have real form; a second way in which Phenylbutazone can cause an anuric state is a drug idiosyncracy.

Clive and Stoff report that so-called analgesic nephropathy is probably the most frequent cause of chronic renal injury due to NSAIDs; in this setting, a papillary necrosis and interstitial nephritis may occur. This has been seen with aspirin and Phenylbutazone — and perhaps other drugs. There is some controversy as to the exact cause of papillary necrosis in association with NSAIDs therapy—it is proposed in this article that medullary ischemia could be the trigger mechanism.

NSAIDs can produce the so-called nephrotic syndrome, and Clive and Stoff say that it can occur 2½ months to 8 months after therapy with NSAIDs begins—and it may persist up to a year after removal of the drug. Peripheral symptoms of allergy may not be present, but the urine sediment is, so to speak, active with hematuria and pyuria. The nephrotic syndrome due to NSAIDs is said to consist of "focal diffuse interstitial infiltrate consisting predominantly of lmyphocytes with vacuolar degeneration of proximal and distal tubules"; the glomeruli do not show much change. The drugs which are capable of causing the nephrotic syndrome all cause the same histologic pattern and this is strange in view of the fact that the drugs are not of the same chemical family. NSAIDs upset the regulation of water balance. The authors present this as being functionally the result of inhibition of prostaglandin in the kidneys. They also are said to have a countereffect on the functions of the antidiuretic hormone. Some of these patients treated with NSAIDs get water retention-electrolyte imbalances.

All of the NSAIDs family of drugs are said to induce sodium retention; they do this, among other things, by inhibiting prostaglandin release. Aspirin and indomethacin are said to decrease sodium output by the kidneys without a direct relationship to renal blood flow in glomerular infiltrate. An interesting commentary on this is that the authors report that 25% of the patients who are given aspirin or fenoprofen therapy for arthritis get edema. It is postulated that NSAIDs may cause some sodium retention by altering capillary permeability—for example, salicylates can cause albuminuria and fluid escapes from capillaries of the lung into the alveolar space when salicylates are given to excess. According to Clive and Stoff, there may be a relationship between altered prostaglandin metabolism and high blood pressure.

Potassium levels in the blood go up in the presence of NSAIDs if there is renal insufficiency present prior to the administration of the drug—and occasionally this occurs in the presence of normal renal activity. Clive and Stoff state that the high blood potassium levels seem to be the result of inhibition of prostaglandin synthesis. They also state that NSAIDs may be an etiologic factor in so-called hypo-reninemic hypo-aldosteronism.

The authors conclude that although NSAIDs are an important adjunct of the treatment of rheumatic diseases, kidney malfunction may be a result of usage of NSAIDs. They warn against the use of NSAIDs with known renal problems.

ANSWER — Electrocardiogram of the Month

DISCUSSION: Viewing the chain of leads II-L-V_2-V_5 as a rhythm strip, one notes that the patient has periods of both sinus and junctional rhythms. For instance, the first beat and possibly the second beat are conducted from the P-wave in lead II but the third beat is not. With the third beat in lead II, a junctional rhythm is noted which persists through AVL. In V_2, sinus arrhythmia is noted, persisting through V_5 until the last beat on the strip which again is junctional. The terminating beats far all R-R cycles exceeding 860 msec. with the possible exception of the second beat in lead II are junctional. Since the PR interval for the second beat is only 0.09 sec., it too is most likely a junctional beat. All R-R cycles less than 860 msec. are terminated by beats conducted from a preceeding P-wave. Except for minor deformations due to superimposed P-waves, all QRS complexes are identical. The QRS duration is 0.08 sec. The slowest rate is 65/min. so, though "dissociation" occurs, complete heart block is not present. Almost any maneuver, exercise for example, to increase the sinus rate would very probably result in ablation of the junctional mechanism. This patient likely has vagotonia, probably related to her athleticism, which may in turn create enough sinus slowing at rest relating to respiration to result in junctional takeover. At this stage, one might wish to see both an exercise ECG and an ECG with cycled respiration. If the expected results are seen, most physicians would defer further cardiac evaluation at this point and reassure the lady about her heart. So, of the options listed, we would choose #4 and #6.

The feature editar wishes to thank both Dr. Andy Henry of the UAMS Cardialagy pragram and Dr. J. A. Henry of Russellville, Arkansas far their respective contributions to this month's feature.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

James A. Dibrell, Jr., M.D.

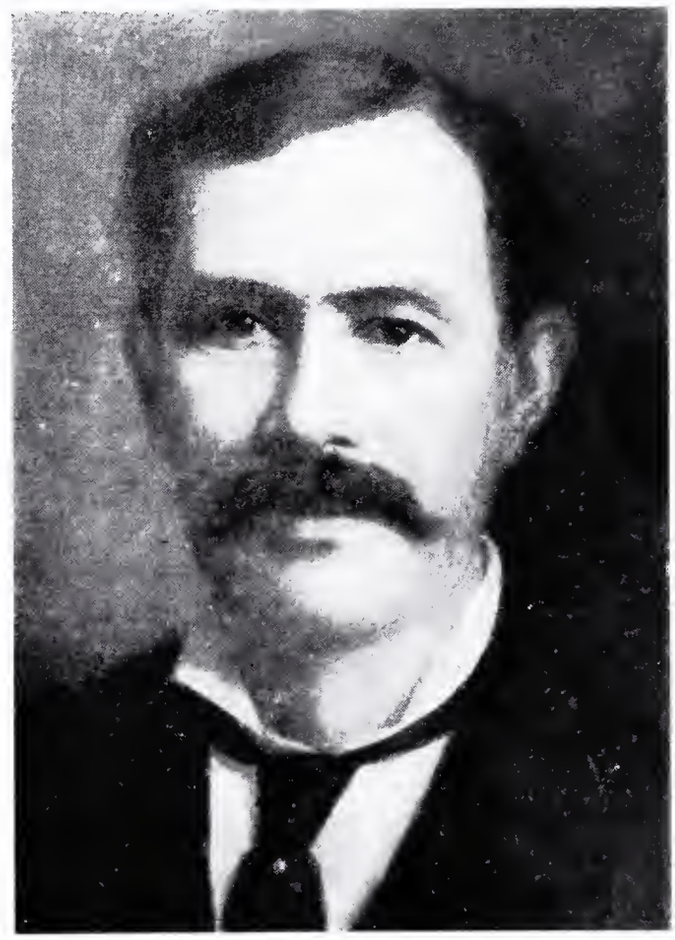
Horace N. Marvin, Ph.D.*

Dr. Dibrell played important roles in medicine as a practicing physician/surgeon, a teacher, a researcher, a writer, and a participant in medical politics.

A native Arkansan, he was born 20 August 1846 in rural Crawford County near Van Buren. He obtained practical, first hand experience while "reading medicine" as an apprentice in the office of his father, also a physician. At the conclusion of his apprenticeship, he enrolled at the University of Pennsylvania. Here he studied under some of the greats in medicine of the day, and in a truly scholarly environment. Perhaps from heritage and/or educational environment he retained an academic view of medicine upon which others were to draw heavily.

After receiving his medical degree from Pennsylvania in 1870, he returned to Little Rock to establish his practice. He was one of the founders of the Medical Department of the Arkansas Industrial University in 1879. He made an academic as well as monetary contribution, actively teaching in the early years. He was Professor of Anatomy the first year, then Professor of General, Descriptive, and Surgical Anatomy for the next twenty-four. In 1887 he was elected by his peers as President of the Faculty, and served in this capacity until his death seventeen years later. He received a recognition few people have been granted, before or since; an Honorary Doctor of Medicine at the Commencement 8 March 1884.

In state medicine he played the role of a stabilizer at a time in history when flux was the password of the day. Professional organizations were a natural evolvement and the Little Rock and Pulaski County Medical Society was the first to appear. Later the Arkansas State Medical Association, later still the College of Physicians and Surgeons, and finally the Arkansas State Medical Society established themselves. Although certainly not solely responsible, Dr. Dibrell's steady conservative position was important in reconciling and unifying the divergent groups. The Arkansas State Medical Society won out as the flagship of Arkansas Medicine, and Dr. Dibrell served two terms as its president. Finally he was elected Vice-president of the American Medical Association, one of the few Arkansans to hold a major office at the national level, before or since.



While a member of the teaching faculty, and while serving as its president, Dr. Dibrell published nineteen reports of his surgical investigations which were listed nationally in the Index Medicus. Although most of his papers appeared in the Transactions, or the Journal of the Arkansas Medical Society, journals at the national level also accepted his papers. He died of pneumonia in Little Rock, 11 November 1904.

*Department of Anatomy.

MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

* * * *

Mandatory Assignment Defeated

In major action in April, the House rejected a plan that would have required physicians to accept assignment on all Medicare inpatient claims.

The legislators may move instead toward adoption of a Senate alternative, endorsed on April 14, which would freeze prevailing and customary fee limits for all physicians for one year. The freeze would be continued on prevailing fee limits for a second year for those physicians who refuse to take all claims on assignment.

The rejected House measure would have frozen Medicare fee limits on physician services to hospitalized patients and mandated assignment of all inpatient claims. Hospitals, as a condition of Medicare participation, would have been required to deny staff privileges to physicians refusing to sign commitments to accept all Medicare claims on assignment.

The measure was pushed by the House Democratic leadership with the support of the American Association of Retired Persons (AARP) and the National Council of Senior Citizens but was vigorously opposed by the American Medical Association and other physician groups. Its defeat was seen as a victory for physician lobbies.

The matter will now be taken up in a conference with the Senate which included its physician freeze and assignment changes in a Finance Committee package of spending and tax measures approved in a marathon Senate session just before recess.

The Senate specifically stipulated that Sens. Edward Kennedy (D-MA) and Max Baucus (D-MT) may offer amendments to the Medicare section. Kennedy intends to offer amendments that would eliminate increases in the Part B deductible and premiums called for in the Finance bill. Baucus also wants to eliminate the increase in the Part B deductible but would allow the premium increase to remain in effect through 1986 and then sunset in 1987. Both may offer language to add a monitoring mechanism to the physician freeze proposal.

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No-Fault Malpractice Bill Introduced

A professional liability bill that was more than a year in the making has been introduced in Congress by Reps. Henson Moore (R-LA) and Richard Gephardt (D-MO).

Called the Alternative Medical Liability Act (H.R. 5400), the measure would apply a no-fault approach of sorts to patients whose care is paid for by the federal government. These would include Medicare and Medicaid beneficiaries as well as military personnel, veterans and federal employes, the sponsors say.

The bill would limit the patient's claim to malpractice awards if the hospital and/or physician offered a settlement within six months of the occurrence on which the claim is based.

The settlement would be based solely on the patient's economic loss—including wage loss, and the cost of rehabilitation and medical treatment. Once the offer had been made, the patient would have no further recourse through the courts except to dispute the appropriateness of the amount. He could not sue for pain and suffering or other damages.

In cases where the provider did not offer a settlement, the current tort system would continue to apply. Unlike an earlier draft, the latest measure leaves the burden of proof with the plaintiff.

The bill also gives states the option of setting up their own malpractice insurance systems that meet the above criteria. In states that hadn't acted by January 1, 1987, the federal law would take effect. Gephardt and Moore say they hope that some states will go beyond the federal law and apply its criteria to all state residents—not just those who are federal beneficiaries.

* * * *

Downturn In Rising Hospital Costs Reported

Hospitals and federal agencies have reported a downtrend in rising hospital costs that some ob-

servers are attributing in part to the implementation of Medicare's diagnosis related groups.

Data detailing the new trend was presented to the Congressional Joint Economic Committee by American Hospital Association Executive Vice President Jack Owen who said the statistics show that DRGs are working and that they are holding down costs for other payers as well as for Medicare.

In 1983, the rate of increase in total hospital expenses slowed from 15.8% in 1982 to 10.2% in 1983. The reduction in the rate of increase in inpatient expenses was even greater—from 15.6% in 1982 to 9.6% in 1983.

Owen said the lower rates of increase are due in part to a slowdown in hospital hiring rates and to a drop in utilization of hospital services. Hospital employment rose by only 1.4% in 1983, he reported, compared to 3.7% in 1982. Overall admissions decreased by 0.5% in 1983 and even admissions for those 65 and older, which went up by 4.7%, did not increase as rapidly as in previous years. Lengths of stay for patients 65 and older were down by 4.5%.

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Costs Up, But Americans Living Longer, Better

By 1983, health care costs in the United States were more than $350 billion — up 770% from 1965. In 1984, for the first time, Americans will spend more than $1 billion a day on health care.

During similar periods of time, however, American life's expectancy has increased by about five years and infant mortality rates have been halved. Deaths from heart disease have declined by 25% and deaths from stroke by 40%. The advances have come about through major technological improvements which themselves often are costly and which increase costs still further by keeping more people alive longer.

These two sides of the health care cost argument were presented before a Joint Economic Committee hearing April 12 in a hearing that in some respects pitted the nation's large corporations against health care providers.

Most outspoken among the corporate representatives was former Department of Health, Education and Welfare Secretary Joseph Califano, a Washington lawyer who now heads a special Chrysler Corporation committee on health care. Califano told the congressional committee that health care costs are "an unfair burden . . . for American business as it seeks to compete with foreign industry." He reported that in 1984, Chrysler will have to sell about 70,000 vehicles just to pay its health care bills of more than $400 million or about $5,700 per active employee. He contrasted that with the $815 a year the Japanese Mitsubishi Motor Corporation (in which Chrysler has an investment) spends per worker.

Califano and other business representatives, including Ford Motor official Jack Shelton, complained that government efforts to hold down health costs to date have shifted costs to business. Between 1970 and 1982, Shelton said, health costs in the United States rose by 332%. At the same time, business health care costs went up by 700%.

An American Association of Retired Persons (AARP) representative said costs are also being shifted to the elderly through some $26 billion in Medicare cuts in the past three fiscal years.

But American Hospital Association Executive Vice President Jack Owen reported that Medicare is not currently shifting costs. He said, however, that shifts may occur if prices for diagnosis-related groups are lowered appreciably and observed that Medicaid is not paying its full share of costs.

Owen and AMA Board Member Alan Nelson, M.D., also maintained that health care costs are due for the most part to improved technology and better access that came about as a result of consumer demand. Even if one assumes that all waste in the health system could be rooted out entirely, Dr. Nelson said, "the cost of health care probably would show a one-time drop and then resume its climb unless technological advances are halted. As long as technological capabilities improve and as we continue to live longer, then of course costs will go up," he hold the committee.

* * * *

Senator Says Competition Is Working

Amidst predictions that the Medicare hospital trust fund will be depleted by 1991 or shortly thereafter, one influential U.S. Senator is arguing that Congressional action to fix Medicare now would be premature.

Sen. David Durenberger (R-MN), a champion of the competition approach to holding down health costs, said at a recent Senate Finance Committee hearing that he believes today's solutions to the Medicare problem may not be needed or applicable by the projected date of bankruptcy. His arguments are based on the premise that competition is already taking hold in the health field.

The hearing concentrated on the recommendations of a Medicare advisory group chaired by for-

mer Indiana Gov. Otis Bowen, M.D., but also focused on projections regarding the actual date at which the hospital fund will be depleted.

* * * *

FTC Pokes Into Physician Ads

At an April meeting sponsored by the Federal Trade Commission, participants debated the advantages and disadvantages of "quality claims" in professional advertising.

Traditionally, medical ads have described only the physician's office hours, specialty, address, and phone number. Now, an increasing number of ads describe the physician's qualifications as well.

"I predict a transition from advertising 'kind of practice' to 'quality of practice' which will trigger a whole new round of (legal) fights," says attorney Nancy Buc of Weil, Gotshal & Manges.

Physicians, for the most part, said they fear that patients are easily led astray by exaggerated claims of competence. John Mumna, M.D., of the American Society of Plastic and Reconstructive Surgeons said the ads "offer unrealistic psychological inducements."

Said Robert Moser, M.D., of the American College of Physicians: "The sole purpose of advertising is to persuade a consumer to purchase a product. When slick Madison Avenue techniques, designed to appeal to the emotions, are applied to the health care, the consumer could be influenced to make a dangerous and bad decision."

According to FTC staffers and attorneys, however, the medical profession's fears are exaggerated and unjustified. The FTC has received many complaints on health care advertising from professionals. Upon investigation, however, most of these ads were neither false nor deceptive, but simply demeaning to the profession, according to FTC attorney Jonathan Bromberg.

There is little evidence of fraudulent or misleading advertising, according to Irwin Braun, President of Braun Advertising, Inc. Of five state regulatory agencies contacted by Braun, few reported any incidents of problem advertising. One state attorney told him: "The majority of complaints are from other professionals. We have practically no consumer complaints." Even when ads do violate the law, it is the professionals, not consumers, who notice, Braun says.

The FTC has no precise definition of what exactly constitutes a "false and deceptive" quality claim. It looks for evidence of actual harm, either physical or monetary; an ad that is simply distasteful receives little FTC attention. In the past several years, they have prosecuted roughly a dozen cases.

The FTC language regarding advertising is so broad that it appears to render the medical community powerless against an unethical physician advertising his services," AMA President-Elect Joseph F. Boyle, M.D. said.

Professional societies are reluctant to jump into the fray, fearing anti-trust litigation. Most medical societies still monitor local advertising: first-time offenders are reprimanded and repeat offenders may be suspended or dismissed from the society. The AMA has a policy against false and deceptive advertising. But the old code of ethics against advertising is no longer.

Participants in the meeting urged the AMA and FTC to work together to combat deceptive ads. They could design a brochure that would define legitimate advertising to AMA members. But, the FTC should confine their vigilance to overseeing physicians' enforcement of their own rules, leaving them free of direct regulation, they proposed.

The FTC offered an olive branch: "We're not opposed to self-regulation to professionals as long as it is intended to reduce deception, not preserve self-interest," said Michael McCarey of the Bureau of Consumer Protection. "The AMA has a valuable and unique role to play here."

"We ask that if you see an example of deception, please send us a copy, explaining why it is deceptive, with substantiation, if possible," he said.

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Ophthalmologists Call On FTC

The American Academy of Ophthalmology asked the Federal Trade Commission (FTC) in April to investigate "false and misleading" advertising by optometrists, saying the ads pose a serious threat to consumers.

Before taking action, however, the FTC says it may need evidence that the ads actually harm patients and are not simply part of an ongoing jurisdictional battle between the two professions.

Information in the ads that can mislead the public, according to the Academy, includes:

*References to "Dr. Jones, diseases of the eye," or to services such as cataract surgery which optometrists cannot perform legally.

*Use of the phrases "optometric medicine, medical optometrists, optometric physicians,

or eye doctors in family practice."

*References to "total eye care" or "complete eye care services."

*Misleading definitions of ophthalmologists and optometrists.

The Academy does not wish to single out individual advertisers, but wants the FTC to investigate the general tone of optometric advertising, according to Academy attorney Clifford S. Stromberg.

The FTC will first determine whether the problem is confined to "fringe" practitioners or is industry-wide. If it decides there is evidence of a general dispute, it will then look for measurable harm—either physical or monetary—to consumers. This may require an extensive study of public perception of the differences between the two professions.

* * * *

AIDS Virus Found

The big news in science from Washington in April was the report from Cancer Institute scientists that they had most likely found the cause of AIDS. Sensitive to charges that the AIDS problem was not getting all the attention it should, Department of Health and Human Services pulled out all the stops and held a high level press conference by Secretary Heckler to announce the finding. Scientists say the cause is most likely a virus that attacks the cells of the body's immune system.

* * * *

AMA Calls For PRO Changes

The American Medical Association has requested modifications in the federal government's proposed method of contracting for oversight by peer review organizations (PROs) of hospital care to Medicare patients.

In a letter to Health Care Financing Administration head Carolyne Davis, Ph.D., the AMA called for added flexibility in the fixed price contracts the government will sign with PROs. The Association also urged that pre-admission review requirements detailed in a request for PRO contract bids be modified and called for an extension of the April 27 deadline for submitting PRO bids.

Meanwhile, proposed regulations governing the confidentiality of data collected by Medicare peer review organizations (PROs) and the use of PRO-recommended sanctions were issued late in April by the Health Care Financing Administration — just weeks before final PRO bids are due.

Final rules weren't issued until after the April 27 deadline for bids from organizations competing for PRO contracts, however, leaving open the possibility that the PRO contracts will have to be amended if changes are made in the final rules as a result of comments on the proposed regulations.

* * * *

More On Assignment

A new bill from Sen. John Heinz (R-PA) would set up Medicare physician fee schedules and require physicians to accept assignment on all claims for services to Medicare inpatients.

The bill provides financial incentives for states to develop health care cost containment plans pertaining to all third party payers. To be called the Medicare Incentives Reform Act, the bill would also limit out-of-pocket costs for Medicare beneficiaries and increase federal excise taxes on cigarettes.

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Physicians Protesting Medicare Statement

Groups representing organized medicine have asked the Health Care Finance Administration to either modify or withdraw a new statement they are being required to sign as part of Medicare's new diagnosis related groups payment system.

The statement, which must appear within the medical record of discharged hospital patients, requires the physician to attest that the principal and secondary diagnosis and procedures listed in the record are accurate. It also warns that intentional misrepresentation or fraud in connection with the record is "punishable by imprisonment, fine or civil penalty."

In a letter to Health Care Financing Administration head Carolyne Davis, Ph.D., the American Medical Association observed that there "is no mandate in the DRG law for the certification form" and requested a meeting to "explore whether this regulation can be withdrawn."

* * * *

Doctors On Standby

A controversial plan to register both female and male physicians in a peacetime draft was quietly set aside in April by the Pentagon.

Instead, the "doctor draft" has been included in a large "mobilization day" contingency plan, to be implemented only in the event of war.

The now-defunct proposal, if enacted by Congress would have made women eligible for the draft for the first time in American history. The plan was to amend the Selective Service Act by striking out the term "male" health professional

and substituting the term "person." Among the "persons" described: female physicians, nurses, physical therapists, pharmacists, podiatrists, veterinarians, and "any other ancillary or technical health care worker between the ages of 18 and 46 years old."

Facing strong opposition by the American Nurses Association and other groups, the new proposal includes a plan to draft women health care professionals and does not need peacetime congressional approval. Instead, it will be part of a plan that will be handed over to Congress within a day or two of "World War III or another national emergency," according to Pentagon spokesmen.

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Dr. Custis Resigns VA

One of the most powerful men in American medicine, Donald L. Custis, M.D., Chief Medical Director of the Veterans Administration, resigned from his post this month.

The 67-year-old surgeon began his military career as a staffer at the U.S. Naval Hospital in Portsmouth, VA, then going on to become medical officer on an attack transport in WWII, chief of surgery at the Naval Hospital in Cuba, and commanding officer of the Danang Naval Hospital in Vietnam.

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New Technologies Assailed

Many once-common medical practices — such as porta caval shunt surgery for patients with cirrhosis of the liver, stilbesterol for prevention of miscarriage, routine tonsillectomy, routine Xray therapy for radical mastectomies — are now known to have serious and expensive side effects.

Sen. Claude Pepper (D-FL), chairman of the House Select Committee on Aging's Subcommittee on Health and Long-term Care, convened a hearing in April to investigate the impact that untested medical technologies have on health care costs.

Physicians testified that increasing numbers of diagnostic procedures are being pressed into service without adequate testing. Procedures such as nuclear magnetic resonance, organ transplants, and apheresis need to be evaluated and compared to existing technologies, they urged.

At least 15% to 20% of all tests, procedures, drugs and devices used in diagnosis and treatment are not worth what they cost," said Arnold Relman, M.D., Editor of the New England Journal of Medicine. Some are no better than cheaper technologies already on the market. Others are ineffective. In a few cases, they actually may be harmful, he said.

New technologies are being developed and marketed so rapidly that their evaluation lags far behind. New technologies will continue to appear at an ever increasing rate, said Seymour Perry, M.D., Deputy Director of the Institute for Health Policy Analysis at the Georgetown University Medical Center and former director of the now-defunct National Center for Health Care Technology.

Physician uncertainty is a chief cause of over-utilization; because there is so little information about technology effectiveness, physicians tend to use a procedure or test whenever they think the patient might benefit, the witnesses said.

There are at least 45 private organizations now, such as the AMA's DATTA, involved in technology assessment. But their evaluations are disparate and fragmented, with little exchange of information. Their evaluations tend to focus on safety and effectiveness, rather than cost. Moreover, each organization has its own agenda with no plan for the overall national implications.

The physicians recommended use of an independent federal agency, with an advisory board to represent physicians, the health care industry, third-party payers, federal officials, and individuals from the economic, ethical, and legal communities.

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Controlled Substances Bill Moves

The U.S. House of Representatives in April passed a bill which makes it a federal crime to steal controlled substances from physicians, hospitals, and pharmacies.

The legislation (HR. 5222), sponsored by Rep. William J. Hughes (D-NJ), was passed unanimously by a voice vote. The Senate already has passed similar legislation as a separate bill (S. 422) and as part of a larger anti-crime package (S. 1762).

* * * *

Under Secretary For Health Proposed

A bill to reorganize the Department of Health and Human Services was introduced in April by Reps. Henry Waxman (D-CA) and Edward Madigan (R-IL).

Of main importance to the medical community is a provision to create an Under Secretary for Health, to coordinate all health affairs, including the Public Health Service, the Health Care Finance Administration, and other programs under

the current Assistant Secretary for Health.

Also included in the bill is an Under Secretary for Human Services who would tackle issues such as Social Security and aid to families with dependent children.

"The Department simply has grown too large and unwieldy to manage effectively without separating its two major functions — health and human services," said co-sponsor Rep. Waxman.

The AMA has given full endorsement to the plan and supporters are seeking co-sponsors to help sell it to the full House of Representatives.



Dr. Robert H. Langston

DR. LANGSTON ELECTED TO COUNCIL

Dr. Robert Langston of Harrison was elected to represent the Ninth Councilor District on the Council of the Arkansas Medical Society at the Society's recent annual meeting in Little Rock.

Dr. Langston was born in Little Rock. His father, the late Dr. W. C. Langston, was the former acting dean and head of the Anatomy Department at the University of Arkansas Medical Center.

He is a 1952 graduate of the University of Arkansas and a 1956 graduate of the University of Arkansas College of Medicine.

Dr. Langston served in the United States Army from 1958 to 1960. He began Family Practice in Harrison in 1960. Dr. Langston has been a member of the Boone County Medical Society and the Arkansas Medical Society since beginning private practice; he has served in all offices of the County Medical Society.

Dr. Langston is a fellow in the American Academy of Family Physicians, a member of the active staff of Boone County Hospital where he has served in all offices of the medical staff and is presently on the board of directors for the Arkansas Foundation for Medical Care.

He is a deacon and active member of the First Baptist Church in Harrison.

Dr. Langston is married to the former Frankie Simpson of DeWitt; they have three sons—Bill, Jim and Tom.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

CARE OF THE FAMILY AND THE PATIENT DURING DEATH AND DYING
Presented by Stephanie Simonton, M.A., *July 17, 7:00 p.m.,* Baxter County Regional Hospital, Mountain Home. Two hours Category I credit.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

EL DORADO — AHEC-SOUTH ARKANSAS
Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.
Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST
Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER
Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
Peer Exchange, August: "Cardiology"; September: "Rheumatology".

FORT SMITH — AHEC
Cancer Conference, each Tuesday, 12:00 noon, Fourth Floor Conference Room, Sparks Regional Medical Center.

HOT SPRINGS — ST. JOSEPH'S REGIONAL HEALTH CENTER
August 7: "Scalp Reduction", 12:15 p.m., Red Room. One hour Category I credit.

JONESBORO — AHEC-NORTHEAST
Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Monthly Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Weekly Medical Lecture Series, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL
Child Neurology Conference, first Monday, 8:00 a.m., Second Floor Classroom.
Pediatric Radiology/Genetics Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Primary Care Seminar and Case Presentation, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER
Surgery Conference—CANCELLED JULY AND AUGUST.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.
Cardiopulmonary Resuscitation Course, fourth Thursday, 6:00 p.m. to midnight, Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E-159, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E-159, Education Wing.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.

PINE BLUFF — AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.



PERSONAL AND NEWS ITEMS

DR. ARAOZ SPEAKER

Dr. Carlos Araoz was speaker at the meeting of the National Society of Histotechnologists in Little Rock. Dr. Araoz spoke on "Muscle Histochemistry."

DR. ATHA IN NASHVILLE

Dr. Tim Atha, an Internist, is practicing in Nashville. Dr. Atha was born in Nashville.

PHYSICIANS RECEIVE PLAQUES

Dr. David Williams, chairman of the board of directors at St. Mary's Hospital in Russellville, presented plaques to Dr. James M. Kolb, Jr., for his service as chief of staff from 1982 to 1984 and to Dr. John W. King for his service to the board from 1982 to 1984.

DR. CALLETON IN MENA

Dr. Richard Calleton has opened an office in Mena.

DRS. WILSON AND RUSHER

Drs. A. H. Rusher and Joe T. Wilson of Jonesboro spoke to a class of fifth graders on the respiratory system. The program was a part of the Berkeley Health Unit Program and allowed the children to examine tissue of a calf's lung.

DR. MOORE CHIEF

Dr. James Moore of Fayetteville is the 1984 chief of medical staff at Washington Regional Medical Center. Other officers are: Dr. David Crittenden, chairman of medicine; Dr. C. H. Miller, chairman of surgery; Dr. James Patrick, assistant chairman of medicine; and Dr. Carl Covey, assistant chairman of surgery.

DR. BRAINARD SPEAKER

Dr. Jay O. Brainard of Little Rock recently lectured at Emergency Room Trauma Workshops at St. Vincent Infirmary and Baptist Medical Center.

DR. JONES LOCATES

Dr. David Jones has joined the staff of the Garst Family Medical Clinic in Mountain View.

DR. RALPH HAMILTON DAY

Governor Bill Clinton proclaimed May 19th as "Dr. Ralph B. Hamilton Day in Arkansas." The proclamation was only one of many forms of

recognition for Dr. Hamilton in appreciation of his fifty years of medical practice in West Memphis.

Dr. Hamilton was honored with a reception and testimonial dinner. Dr. Glenn Schoettle of West Memphis was toastmaster and Dr. Milton Deneke, also of West Memphis, participated in the testimonials. Proceeds from the dinner and donations made were used to establish a scholarship fund named after Dr. Hamilton.

Dr. Hamilton was guest speaker at a Mid-Day Manna luncheon sponsored later in the week by the First Baptist Church.

PHYSICIANS HONORED

The University of Medical Sciences awarded a Special Faculty Citation to Dr. Eva F. Dodge, formerly of Little Rock, in honor of her 27 years as professor. Drs. Raymond P. Miller and Joseph A. Norton of Little Rock were presented the Distinguished Service Awards.

DR. PARKER PROGRAM CHAIRMAN

Dr. Douglas Parker of Fort Smith served as program chairman for the third annual Kirkpatrick Sport Medicine Clinic recently held at Sparks Regional Medical Center.

DRS. BELL AND PATTON PARTICIPATE

Dr. Pat Bell and Dr. Francis Patton of Helena participated in a program for citizens on high blood pressure.

DR. MYRICK ASSOCIATES

Dr. Jerry Myrick has associated with The Collom & Carney Clinic in Texarkana for the practice of Internal Medicine and Nephrology.

DR. BAILEY ELECTED

Dr. H. A. Ted Bailey of Little Rock was elected to the governing council of the American Otological Society at its recent meeting in Palm Beach, Florida.

DR. HERGENROEDER IN NEWPORT

Dr. Paul J. Hergenroeder, an Obstetrician-Gynecologist, has opened an office at 109 Laurel Street in Newport.

DRS. GEORGE AND STAINTON PRESENT CLINIC

Drs. F. Joseph George and Joseph C. Stainton of Jonesboro supervised a free glaucoma eye clinic sponsored by the Pocahontas Lions Club.

DR. HARRISON SPEAKS

Dr. Jack Harrison of Texarkana spoke on the premenstrual syndrome at a forum sponsored by Southwest Arkansas Counseling and Mental Health Center.

PHYSICIANS DISCUSS DIABETES

Little Rock physicians — Drs. Ed Barron, K. W. Cosgrove, Jr., Charles D. Barg, Richard A. Calhoun, and Lawson E. Glover — discussed diabetes at a program sponsored by Baptist Medical Center. The program was a first of a series planned for persons wanting to learn more about various diseases. Each program will be conducted by physicians on the staff of Baptist Medical Center.

DRS. HOY AND MAROLYN SPEER RELOCATE

Drs. Hoy Speer and Marolyn Speer of Stuttgart have relocated to 1708 North Buerkle Road.

RADIOLOGY OFFICERS

The new officers for the Arkansas Chapter of the American College of Radiology are: president Dr. Charles McClain of Batesville, president-elect Dr. Robert Elliott of Searcy, and secretary-treasurer Dr. Marolyn Speer of Stuttgart. The councilors to the American College are Drs. Calvin Cassady from Fort Smith and Jerry Holton from Little Rock; alternate councilors are Dr. John Bell from Searcy and Dr. Doyne Dodd from Little Rock.

NEW BROCHURE

The National Kidney Foundation has published a new brochure entitled "Nutritional Considerations for the Patient Before the Initiation of Dialysis." The brochure was designed for use in the physician's office as a brief overview of the types of nutritional modifications commonly encountered by persons with renal disease. The brochure can be obtained through the local affiliate of the National Kidney Foundation, 2 Park Avenue, New York, New York 10016.



NEW MEMBERS

DR. PAUL L. RABY

A new member of the Crawford County Medical Society, Dr. Paul Raby, is a native of Canada.

Dr. Raby attended St. Alexander College in Hull, Canada, from which he received a Bachelor of Letters degree in 1958. He received a Bachelor of Arts degree from St. Joseph College at Three Rivers, Canada, in 1960. He was graduated from Laval University Faculty of Medicine in 1965. Dr. Raby served an internship with St. Sacrement Hospital in Quebec City. His residency training was at the University of Montreal from 1969 to 1972. From 1962 to 1969, Dr. Raby served as a medical officer with the military service in Canada, with one year of general surgery at the military hospital in Ottawa. He practiced in Montreal, Canada, for ten years. During that time, he was an Associate Professor at Montreal University and Chief of Orthopaedics at Sacred Heart Hospital (1979 to 1983).

Dr. Raby practices Orthopaedics at 2020 Chestnut, Suite 101, in Van Buren.

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The Crittenden County Medical Society has three new members:

DR. THOMAS L. GRAY

Dr. Gray was born in Knoxville, Tennessee. He received a Bachelor of Arts degree from the University of Tennessee at Knoxville in 1974. He is a 1977 graduate of the University of Tennessee Center for Health Sciences in Memphis.

Dr. Gray served a Categorical Internal Medicine internship at City of Memphis Hospital. His residency training was also at the City of Memphis Hospital.

He was a member of the Southern Baptist Missionary in Nigeria from July 1981 to July 1982.

Dr. Gray practices Obstetrics and Gynecology at Suite 204, 228 Tyler, in West Memphis.

DR. CLARENCE G. HERRINGTON, JR.

Dr. Herrington, a native of Memphis, received a Bachelor of Arts degree from Vanderbilt University in 1966. He is a 1969 graduate of the University of Tennessee College of Medicine at Memphis.

He served an internship and residency at Charity Hospital in New Orleans. He was a member of the United States Air Force Reserve Medical Corps from 1971 to 1977.

Dr. Herrington was associated with the Methodist Hospitals in Memphis from 1973 to 1983. He joined the staff of the Crittenden Memorial Hospital in 1983.

Dr. Herrington is board certified in Anesthesiology. His address is 200 Tyler Avenue, West Memphis.

DR. TRENT PATTERSON PIERCE

Dr. Pierce was born in Jonesboro. He received a Bachelor of Science degree in Zoology from the Arkansas State University in 1976. He was graduated from the University of Arkansas College of Medicine in 1980. His internship and residency were at the Medical University of South Carolina in Charleston.

Dr. Pierce is board certified in Family Practice. He practices at 228 Tyler in West Memphis.

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DR. LESTER T. ALEXANDER

Dr. Alexander is a new member of the Jefferson County Medical Society. He was born in McGehee.

Dr. Alexander is a 1975 graduate of the University of Arkansas at Pine Bluff and a 1980 graduate of the Meharry Medical College in Nashville, Tennessee. His residency training was with the Area Health Education Center in Pine Bluff.

Dr. Alexander specializes in Family Practice. His office address is 1112 Linden Street in Pine Bluff.

DR. JACQUELYN SUE FRIGON

Dr. Frigon, a native of Crossett, is also a new member of the Jefferson County Medical Society.

Her pre-medical education was at Alabama A & M and Hendrix College in Conway. She received a Bachelor of Arts degree in 1975 from Hendrix College.

Dr. Frigon was graduated from the University of Arkansas College of Medicine in 1979. Her internship was with the University Hospital and the Veterans Administration Hospital. She received her residency training in Neurology at the University, the Veterans Administration and Arkansas Children's Hospital.

Dr. Frigon began practicing in Pine Bluff in July 1983. She specializes in Neurology at 1726 Doctor's Drive in Pine Bluff.

DR. RONALD D. TANNER

Dr. Tanner is another new member of the Jefferson County Medical Society. He is a native of Pine Bluff.

He received a Bachelor of Science degree in Chemistry and Zoology from the University of Arkansas at Monticello in 1972 and a Masters degree in Microbiology from the University of Arkansas at Fayetteville in 1974. He is a 1979 graduate of the College of Osteopathic Medicine of the University of Health Science in Kansas

City, Missouri. Dr. Tanner's residency training was at the University of Arkansas for Medical Sciences. He is board certified in Family Practice.

Dr. Tanner has been in private practice in Pine Bluff for three years.

Dr. Tanner specializes in Family Practice at 1718 Doctors Drive in Pine Bluff.

DR. STEPHENS D. CARRINGTON

Dr. Carrington, a new member of the Polk County Medical Society, was born in Carthage, Texas.

He received a Bachelor of Arts degree from Louisiana College in 1948 and a Bachelor of Science degree from McNeese State College in 1954. Dr. Carrington is a veteran of World War II and the Korean War. He is a 1958 graduate of the Louisiana State University School of Medicine in New Orleans.

Dr. Carrington's internship was with St. Luke's Hospital in Denver. He practiced in Rifle, Colorado, for one year, in Shreveport for six years and in Welsh, Louisiana, for six years.

Dr. Carrington was in residency training at the Confederate Memorial Medical Center in Shreveport from 1972 to 1975. He was associated with the Veterans Administration from 1975 to 1980 and with the State of Louisiana Office of Mental Health from 1980 to 1983. Dr. Carrington also served as an Assistant Professor of Psychiatry at the Louisiana State University Medical School in Shreveport and as Chief of Electroencephalogram Laboratory at the Louisiana State University Teaching Hospital.

Dr. Carrington is board certified in Psychiatry. His office is in the Northside Shopping Center in Mena.

DR. JAMES G. SHERIDAN

Dr. Sheridan is a new member of the Greene-Clay County Medical Society. He was born in Limerick, Ireland.

He is a 1965 graduate of Crescent College in Limerick, Ireland. He received his medical degree from the Trinity College of Dublin in 1971.

Dr. Sheridan served an internship in Ireland. His residency training was in Dublin and at Mercy Hospital in Buffalo, New York.

Dr. Sheridan was a tutor with Trinity College in Dublin from 1975 to 1978. He practiced medicine in Canada from 1979 to 1981. In January 1981, he moved to Piggott.

Dr. Sheridan specializes in General and Internal Medicine. His office is located at 425 West Jackson in Piggott.

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The Pulaski County Medical Society has eleven new members:

DR. THOMAS F. HUDSON, III

Dr. Hudson, a native of Meridian, Mississippi, received a Bachelor of Science degree in Biology from Millsaps College in Jackson, Mississippi, in 1972. He is a 1976 graduate of Baylor College of Medicine in Houston, Texas.

Dr. Hudson served his internship at St. Joseph Hospital in Houston. His Dermatology residency was with the University of Arkansas College of Medicine. He began practicing in Little Rock in June 1980.

Dr. Hudson specializes in Dermatology at 1015 Donaghey Building in Little Rock.

DR. THOMAS A. LANGE

Dr. Lange was born in Racine, Wisconsin. He received a Bachelor of Arts degree in Biology from Dana College in Blair, Nebraska, in 1964. He is a 1968 graduate of the University of Wisconsin Medical School in Madison.

His internship was with the Newport Naval Hospital in Rhode Island. Dr. Lange received residency training in General Orthopaedics at the United States Naval Hospital in Philadelphia, Pennsylvania, from 1969 to 1972. He received further training in Children's Orthopaedics at Children's Hospital in Iowa City, Iowa.

Dr. Lange was on the staff of the Oncology Department and the Amputee Clinic at the University of Wisconsin. He is associated with the John L. McClellan Memorial Veterans Administration Hospital. He was certified by the American Board of Orthopaedic Surgeons in 1974.

Dr. Lange specializes in Orthopaedic Oncology. He is an Associate Professor in the Department of Orthopaedics at the University of Arkansas College of Medicine.

DR. JOHN R. MAWK

Dr. Mawk was born in San Antonio, Texas. He received a Bachelor of Arts degree from St. Mary's University in San Antonio in 1970. He is a 1974 graduate of the University of Texas Medical School at San Antonio. Dr. Mawk trained in Neurosurgery at the University of Minnesoto at Minneapolis.

Dr. Mawk was a member of the staff at St. Paul-Ramsey Medical Center of the University of Minnesota from 1980 to 1983. He received his certification for Neurological Surgery in 1982.

Dr. Mawk specializes in Neurosurgery. He is a member of the staff at Arkansas Children's Hospital, 804 Wolfe, in Little Rock.

DR. JOHN C. NASH

Dr. Nash was born in Long Beach, California. He is a 1966 graduate of the Arkansas College in Batesville and a 1977 graduate of the University of Arkansas College of Medicine.

Dr. Nash served his internship and residency in General Surgery and a Peripheral Vascular Surgery Fellowship at Baylor University Medical Center in Dallas. He was certified by the American Board of Surgery in 1983.

Dr. Nash specializes in General Surgery and Peripheral Vascular Surgery. His office is in Suite 330 of the Doctor's Park Building at 9600 West 12th in Little Rock.

DR. RICHARD M. NESTRUD

Dr. Nestrud, a native of Memphis, was graduated from the University of Iowa in Iowa City in 1970. He is a 1974 graduate of the University of Arkansas College of Medicine. His training in Pediatrics and Neonatology was with Arkansas Children's Hospital and the University Hospital.

Dr. Nestrud was an Assistant Professor of Pediatrics and Neonatology at the University of Arkansas College of Medicine and Arkansas Children's Hospital from 1978 to 1983.

He received his board certification in Pediatrics in April 1979 and his certification in Neonatal-Perinatal Medicine in November 1979.

Dr. Nestrud specializes in Neonatology. His office is in Suite 105 of the Medical Towers Building in Little Rock.

DR. ROBERT A. PORTER, JR.

Dr. Porter was born in Blytheville. He is a 1973 graduate of the University of Arkansas at Fayetteville and a 1978 graduate of the University of Arkansas College of Medicine.

He served a Flexible internship with the University Hospital in Little Rock. Dr. Porter received training in Surgery at the University of Tennessee College of Medicine in Memphis and training in Orthopaedics at the Campbell Clinic in Memphis.

Dr. Porter specializes in Orthopaedics. His office is located at 1100 North University in Little Rock.

DR. NANCY L. SNYDERMAN

Dr. Snyderman, a native of St. Louis, Missouri, received a Bachelor of Science degree in Microbiology at the Indiana University in Bloomington. She is a 1977 graduate of the University of Nebraska Medical Center in Omaha.

She served a Pediatric internship and one year of Pediatrics residency training at Children's Hospital of Pittsburgh, Pennsylvania. Dr. Snyderman was in General Surgery residency with Western Pennsylvania Hospital in Pittsburgh from 1979 to 1980. She trained in Otolaryngology from 1980 to 1983 at the Eye and Ear Hospital of Pittsburgh and the University of Pittsburgh School of Medicine in Pennsylvania.

Dr. Snyderman specializes in Otolaryngology. She is on the staff of the University of Arkansas College of Medicine.

DR. RICARDO F. SOTOMORA

Dr. Sotomora was born in Guatemala City, Guatemala. His medical degree is from the San Carlos University of Guatemala (1972). He served three years in a Pediatrics residency at the University of Arkansas Medical Center. From 1975 to 1978, he was in a Pediatric Cardiology residency at the University of Minnesota Hospital in Minneapolis and in graduate school of the University of Minnesota. He received a Master of Science degree in Physiology from the University of Minnesota in 1978. From 1977 to 1978, he was also training in Neonatology at St. Paul's Children's Hospital.

Dr. Sotomora was an instructor of Pediatric Cardiology at the University of Minnesota in 1978-79. From 1979 to 1981, he was in Guatemala City in the private practice of Pediatrics and Pediatric Cardiology. He returned to the University of Arkansas College of Medicine in 1981 for further training in Neonatology and served as Assistant Professor of Pediatrics at the University of Arkansas College of Medicine.

Dr. Sotomora is certified in Pediatrics and in Pediatric Cardiology. He specializes in Pediatrics, Pediatric Cardiology and Neonatology. His office address is Suite 105, Baptist Medical Towers Building, Little Rock.

DR. CHARLES J. WATKINS

Dr. Watkins was born in St. Louis, Missouri. He was graduated Cum Laude in 1972 from Vanderbilt University in Nashville, Tennessee.

Dr. Watkins is a 1976 graduate of the University of Arkansas College of Medicine. His training in General Surgery from 1976 to 1981 and in Thoracic Surgery from 1982 to 1983 was with the University. He is board certified in Surgery.

Dr. Watkins specializes in Cardiovascular Sur-

gery. His office is Suite 201 of #5 St. Vincent Circle in Little Rock.

DR. FRANCES C. WILSON

Dr. Wilson, a native of Los Angeles, California, received a Bachelor of Arts degree from Pomona College in Claremont, California. She is a 1977 graduate of the University of Kansas School of Medicine in Kansas City.

Dr. Wilson received training in Medicine at the University of Kansas and the University of Arkansas College of Medicine. She also received training in Surgery and Otolaryngology at the University of Arkansas.

Dr. Wilson specializes in Otolaryngology. Her office is Suite 330 of the Parkview Medical Center at #1 St. Vincent Circle in Little Rock.

DR. FRANK J. WILSON, JR.

Dr. Wilson was born in Fairfield, Alabama. He is a 1966 graduate of Hendrix College in Conway and a 1970 graduate of the University of Arkansas College of Medicine.

He interned at Vanderbilt University Hospital and served an Internal Medicine residency with the University of Arkansas College of Medicine.

Dr. Wilson received his board certification in Internal Medicine in 1976 and his certification in Pulmonary Disease in 1982.

He specializes in Pulmonary Diseases. His office is Suite 610 of the Freeway Medical Towers Building at 5810 West 10th in Little Rock.

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DR. GREG JOHNSTON

Dr. Johnston is a new member of the Saline County Medical Society. He was born in Little Rock.

Dr. Johnston received a Bachelor of Arts degree in Chemistry from Hendrix College in Conway in 1976. He is a 1980 graduate of the University of Arkansas College of Medicine. His Family Medicine training was with the University. He is board certified in Family Practice.

Dr. Johnston has his office at 205 Carpenter in Benton.

DR. RANDALL E. FEEZELL

Dr. Feezell, a native of Joplin, Missouri, is a new member of the Sebastian County Medical Society.

He is a 1974 graduate of the Pittsburg State University in Kansas and a 1979 graduate of the University of Kansas Medical School in Kansas City. His internship and residency were with the University of Kansas Medical Center. Dr. Feezell served as Chief Resident of Obstetrics and Gynecology at the Kansas University Medical Center. He is a Junior Fellow of the American College of Obstetrics and Gynecology.

Dr. Feezell specializes in Obstetrics and Gynecology at 408 South 16th in Fort Smith.

DR. THOMAS C. KELLY

Dr. Kelly has joined the Sebastian County Medical Society. He is a native of New Orleans, Louisiana.

Dr. Kelly received a Bachelor of Science degree in Chemical Engineering in 1975 from Louisiana State University. He was graduated from the Tulane University School of Medicine. His internship and residency were with Ochsner Foundation Hospital in New Orleans. He is a member of the Candidate Group of the American College of Surgeons and a member of the Southeastern Surgical Congress.

Dr. Kelly specializes in General Surgery at Cooper Clinic in Fort Smith; his mailing address is Post Office Box 3528, Fort Smith 72913.

DR. LARRY W. PEARCE

Dr. Pearce is another new member of the Sebastian County Medical Society. He was born in Magnolia.

Dr. Pearce received a Bachelor of Arts degree from Hendrix College in Conway in 1970. He attended Vanderbilt University and received a Masters of Divinity degree in 1973. Dr. Pearce is a 1979 graduate of the University of Arkansas College of Medicine. His internship and residency were also with the University. He served as a Clinical Instructor at the University from 1982 to 1983.

Dr. Pearce has joined Cooper Clinic in Fort Smith for the practice of Obstetrics and Gynecology. His mailing address is Post Office Box 3528, Fort Smith 72913.

DR. ROBERT A. ROBERTSON

Dr. Robertson, a native of Prescott, has also joined the Sebastian County Medical Society. He received a Bachelor of Arts degree in Chemistry from Hendrix College in Conway in 1976. Dr. Robertson was graduated from the University of Arkansas College of Medicine in 1980.

Dr. Robertson served his internship and Anesthesiology residency at the University.

Dr. Robertson specializes in Anesthesiology. He has joined the staffs of Holt-Krock Clinic and Sparks Regional Medical Center in Fort Smith.

THINGS TO COME



August 2-4

37th Annual Scientific Assembly, Arkansas Academy of Family Physicians. Statehouse Convention Center and Excelsior Hotel, Little Rock. The program is acceptable for 13.25 prescribed hours. Registration fee is $100 for members if paid by July 3; $125 after that date. Registration fee for non-members is $125 if paid by July 3; $150 after that date. Residents may register for $5; there is no registration fee for students.

The Scientific Program has been announced as follows:

Thursday, August 2,
Les Anderson, M.D., Moderator

1:00 p.m. *New Pathogens and the "New" Pneumonias*
Paul R. O'Bar, M.D., The Nalle Clinic, Charlotte, North Carolina

2:00 p.m. Break—Visit Exhibits

2:30 p.m. *Drug Interactions*
Richard Brown, Ph.D., Clinical Pharmacist, Memphis, Tennessee

3:30 p.m. *Doping of Athletes*
Morris B. Mellion, M.D., Family Practice Department, University of Nebraska Medical Center, Omaha

4:15 p.m. *Hemodynamic Approach to Hypertension*
Morris B. Mellion, M.D.

Friday, August 3, Morning Session,
Cal Sanders, M.D., Moderator

8:00 a.m. *Differential Diagnosis of Rheumatoid Arthritis (live demonstrations)*
Bob G. Lanier, M.D., West Paces Ferry Medical Clinic, Atlanta, Georgia

9:30 a.m. *Geriatric Patients—Different Response to Different Drugs*
Thomas L. Whitsett, M.D., Clinical Pharmacologist, Oklahoma City, Oklahoma

10:30 a.m. Break—Visit Exhibits

11:00 a.m. *Pain and Pain-Related Diseases*
John A. Blaschke, M.D., McBride Clinic, Oklahoma City, Oklahoma

12:00 noon Business Luncheon—Election of Officers

Friday, August 3, Afternoon Session,
Wendell Ross, M.D., Moderator

1:15 p.m. *Update on the Depressed Patient*
Raymond Bauer, M.D., Psychiatrist, Tyler, Texas

2:15 p.m. *Pelvic Inflammatory Disease Update*
James A. McGregor, M.D., Department of Obstetrics and Gynecology, University of Colorado Health Sciences Center, Denver

3:00 p.m. Break—Visit Exhibits

3:15 p.m. *Herpes—Is It Forever?*
James A. McGregor, M.D.

4:00 p.m. *Pathophysiology of Diarrhea, Mal-Absorption and Hypersecretion*
Mark Steven McPhee, M.D., University of Kansas Medical Center, Kansas City

Saturday, August 4,
Robert Sykes, M.D., Moderator

8:15 a.m. *Lipids and Practical Management of Hyperlipoidemia*
Nemat O. Borhani, M.D., Department of Community Health School of Medicine, University of California at Davis

9:45 a.m. Break—Visit Exhibits

10:15 a.m. *Update on Peptic Diseases*
Malcolm G. Robinson, M.D., University of Oklahoma Health Sciences Center, Oklahoma City

11:30 a.m. Installation of Officers' Luncheon
Guest Speaker: Harmon Holverson, M.D., President, American Academy of Family Physicians

For further information, contact Carla Mayfield, executive secretary of the Arkansas Chapter of AAFP, 7509 Cantrell Road, Suite 236, Little Rock 72207; telephone 374-8780.

September 10-11

Challenge for Clinical Nutrition in the 80's. 1984 postgraduate course program sponsored by the American Society for Parenteral and Enteral Nutrition. Marriott Pavillion Hotel, St. Louis, Missouri. For further information, contact Donna M. Baudrau, A.S.P.E.N., 1025 Vermont Avenue, N.W., Suite 810, Washington, D. C. 20005; telephone 202-638-5881.

September 15-16

Regional Postgraduate Clinical Conference. Sponsored by Southern Medical Association. Clarion Hotel, St. Louis, Missouri. Registration fee $15 per hour for SMA members; $22.50 per

hour for SMA non-members. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama; telephone 205-323-4400.

November 7-9

Lung Cancer 1984: 27th Annual Clinical Conference. Shamrock Hilton Hotel, Houston, Texas. Sponsored by The University of Texas M.D. Anderson Hospital and Tumor Institute. For additional information, contact Office of Conference Services, Box 131, M.D. Anderson Hospital and Tumor Institute, 6723 Bertner Avenue, Houston, Texas 77030; telephone 713-792-2222.





Mrs. Deno Pappas
President 1984-1985
Arkansas Medical Society Auxiliary

ARKANSAS MEDICAL SOCIETY AUXILIARY CONVENTION REPORT

The Arkansas Medical Society Auxiliary held its Pre-Convention Board Meeting in the Hospitality Suite of the Excelsior Hotel on Thursday, April 12, 1984, at 2:00 p.m. Only necessary reports were given in the interest of time. The Cookbook Committee presented "The Best of Everything" and invited all those in attendance to come to the tasting party immediately following the meeting.

The First General Session on Friday, April 13, was called to order by the president, Joann Cornell. The highlight of the meeting was an address by Glenda Bates, president of the American Medical Association Auxiliary. She spoke on the necessity of medical auxiliaries changing with a changing world in order to interest new members and retail old members. The following people were nominated to serve on the Nominating Committee for 1984-85: Bonnie Peeples, Esther Lopez, Sunny James and Annette Phillips. The following members will serve as delegates to the National Auxiliary Convention in Chicago June 16-19, 1984: Cynthia Weber, Joann Cornell, Gwen Pappas, and Ginny Blaylock. Following the meeting, a luncheon was held at the Capital Hotel. Mona Lawson presented a plaque commemorating the first organizational meeting of the Medical Society Auxiliary in 1925 at the hotel to Charles Stoermer, General Manager of the Capital Hotel. Mrs. William Reardon, president of Southern Medical Association Auxiliary, brought greetings and discussed advantages of joining Southern Medical.

The Second General Session was held Saturday, April 14, with Joann Cornell presiding. The following county presidents gave reports of the year's activities: Brenda Gullett, Jefferson County; Diane Smart, Pulaski; Mary Jo Mizell, Saline; Valerie Bond, Garland; Sherlyn Cale, Washington; Aileen Guenthner, Baxter; Suzanne White, Greene-Clay; Cindy Baldridge, Craighead-Poinsett; Deborah Ferguson, Crittenden; Alice Lile, Independence; Esther Lopez, Jackson. The chairman of the Nominating Committee, Ramona Taylor, presented the following slate of officers for 1984-85: President, Gwen Pappas; President-elect, Ginny Blaylock; Recording Secretary, Judi McGuire; Treasurer, Nita Valentine; Northeast Vice President, Esther Lopez; Northwest Vice President, Betty Platt; Southeast Vice President, Sunny James; Southwest Vice President, Mary Gardner. After a report from the Resolutions Committee by Mrs. Warren Boop, the meeting was adjourned.

Following the meeting, a luncheon was held in Ballroom Salon B of the Excelsior Hotel. New officers were installed by Mrs. Joe Rosenzweig of Hot Springs. President Gwen Pappas introduced members of her family and special friends who were present. After giving the President's message, she adjourned the meeting.



Mrs. John McCollough Smith, Mrs. Frank Padberg, Mrs. Art Martin, Mrs. Gordon Oates and Mrs. Hoyt Choate, all past presidents of the Auxiliary, attended the Auxiliary luncheon meeting at the Capital Hotel dressed in the attire of their presidential days.



Mrs. Mason Lawson, past president, presented a plaque to Mr. Charles Stoermer, general manager of the Capital Hotel.



Attending the past presidents' breakfast were (first row, left to right) Mrs. C. W. Jones, Mrs. A. A. Little, Mrs. Hoyt Choate, Mrs. Kemal Kutait, Mrs. Walter Mizell, Mrs. Carl Parkerson, Mrs. Paul Gray, Mrs. John McCollough Smith, Mrs. James Branch, Mrs. Curry Bradburn and Mrs. Gordon Oates; (back row) Mrs. A. S. Koenig, Mrs. Raymond Peeples, Mrs. Mason Lawson, Mrs. Herbert Taylor, Mrs. Frank Morgan, Mrs. Art Martin, Mrs. Charles Wilkins and Mrs. Lynn Harris.



Mrs. Paul Cornell, president, 1983-84, Arkansas Medical Society Auxiliary.



Mrs. Joseph Rosenzweig of Hot Springs installed officers at the Auxiliary luncheon on Saturday.



Mrs. Jerry Blaylock, president-elect, 1984-85, and Mrs. Deno Pappas, president, 1984-85.



Mrs. Deno Pappas making her President's Address.



Mrs. Deno Pappas with Mrs. John Bates, president of the American Medical Association Auxiliary.



Auxiliary officers for 1984-85: Mrs. James Gardner, Mrs. Robert Valentine, Mrs. Jerry Blaylock, Mrs. Deno Pappas, Mrs. Robert Lewis, Mrs. William James, and Mrs. Ramon Lopez.









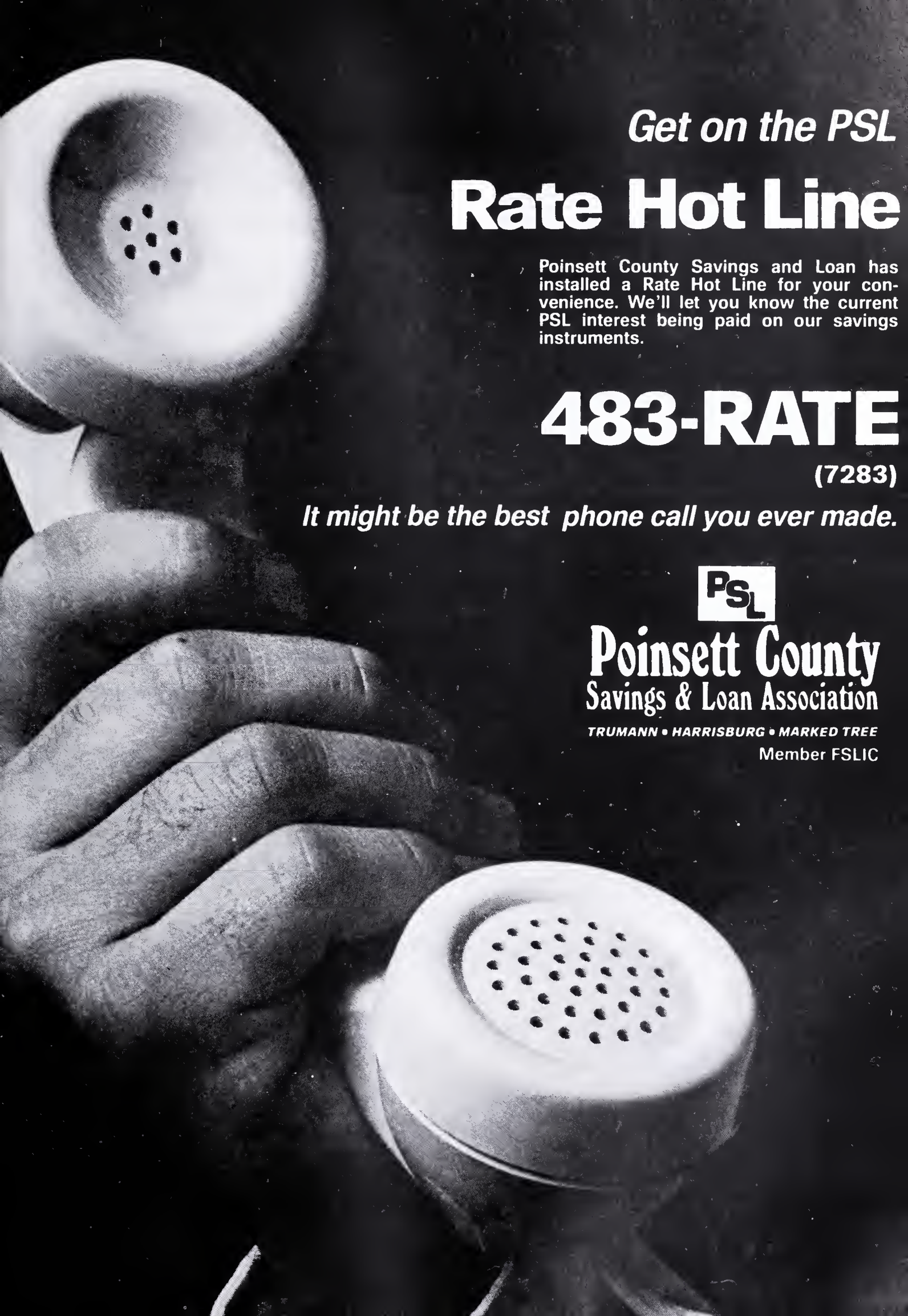








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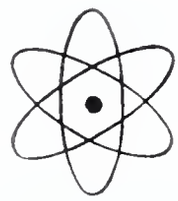
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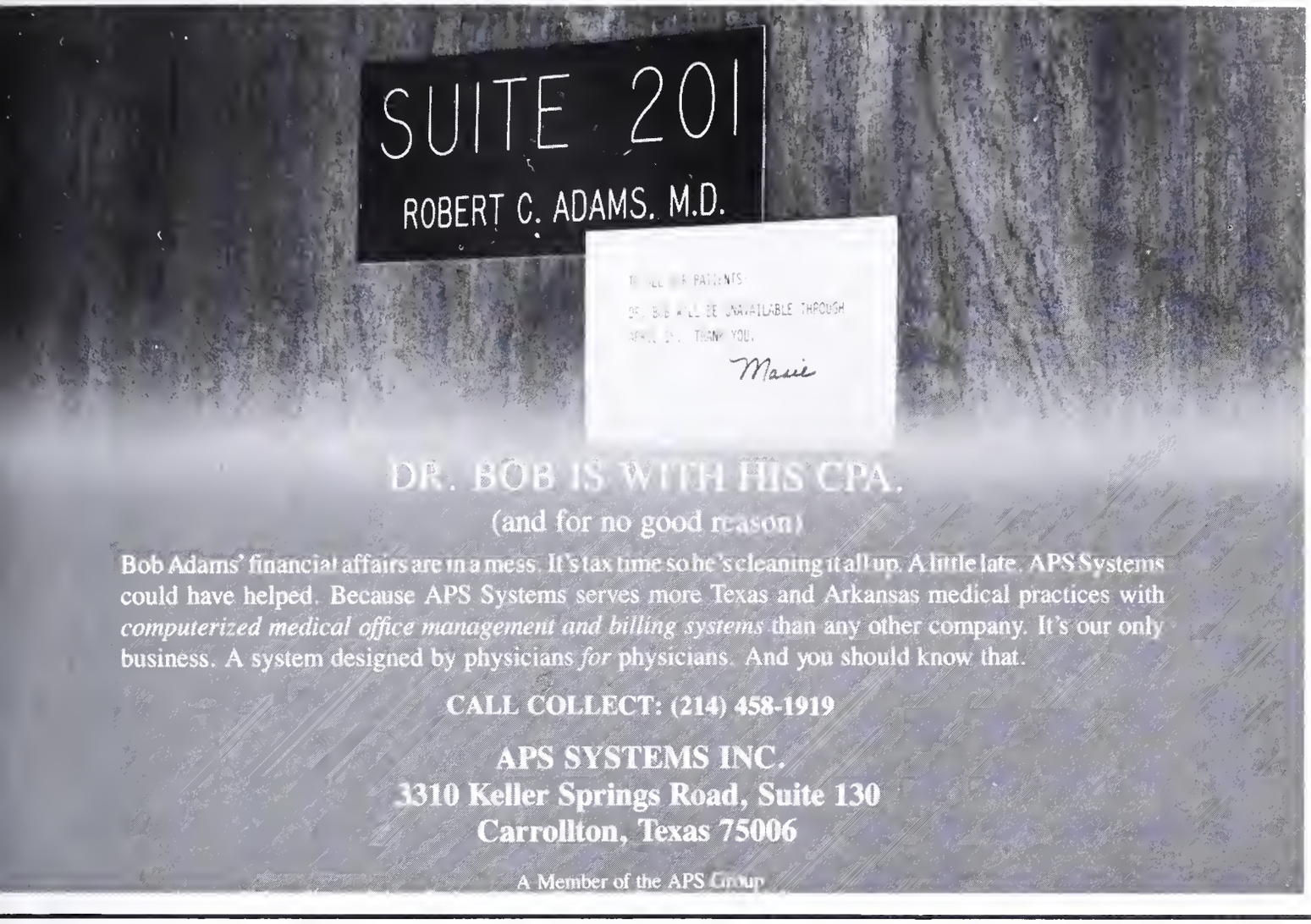
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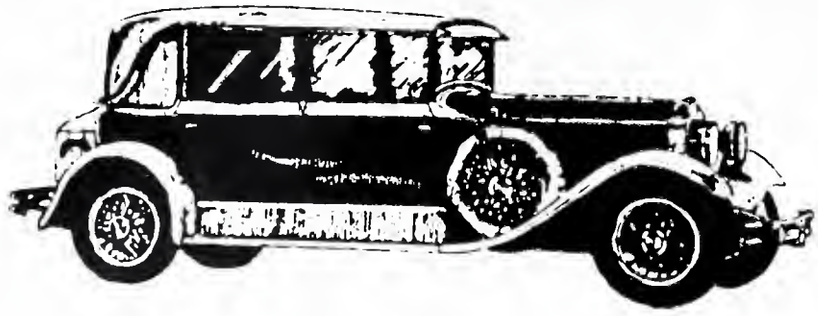
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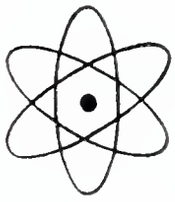
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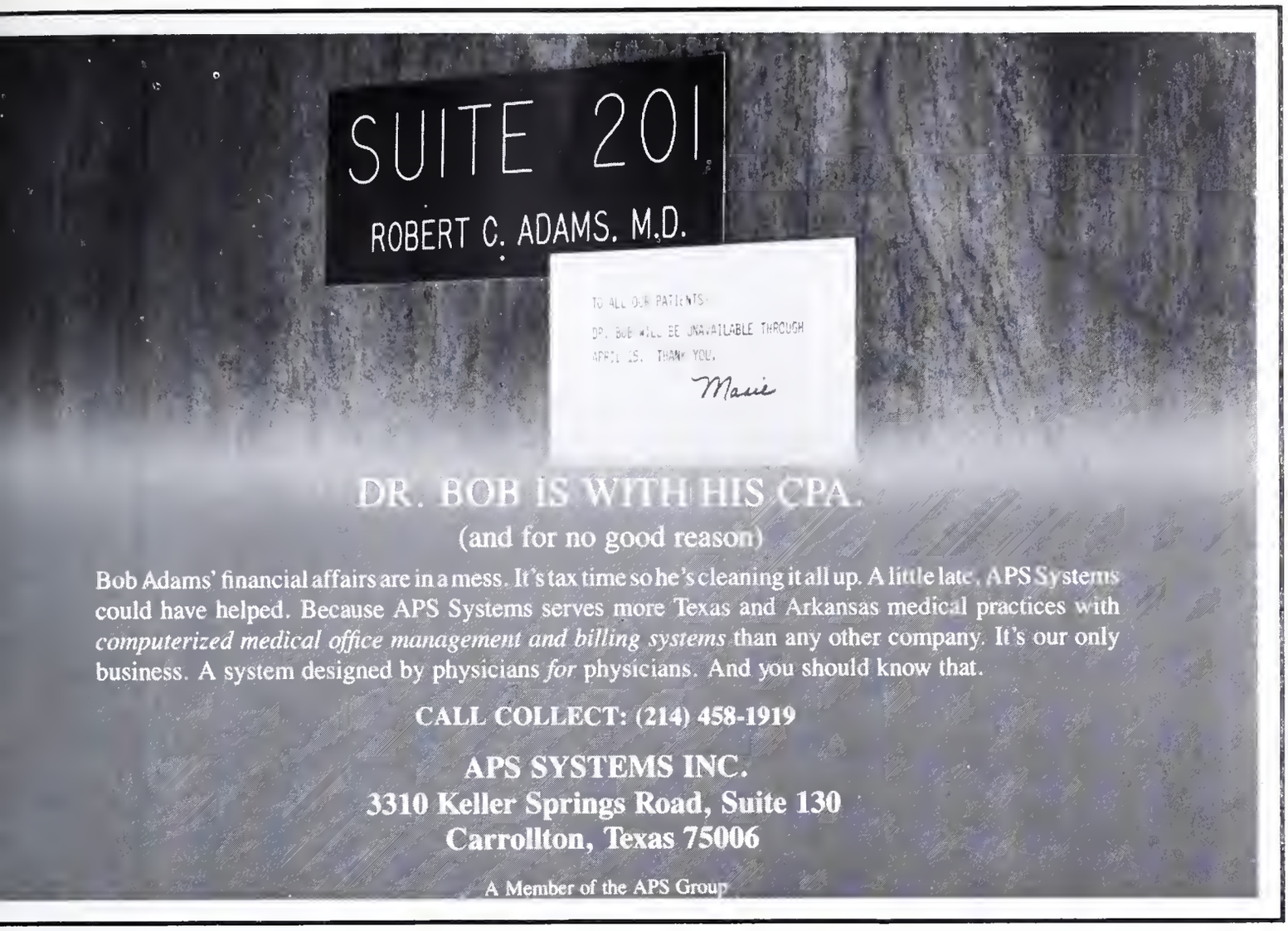
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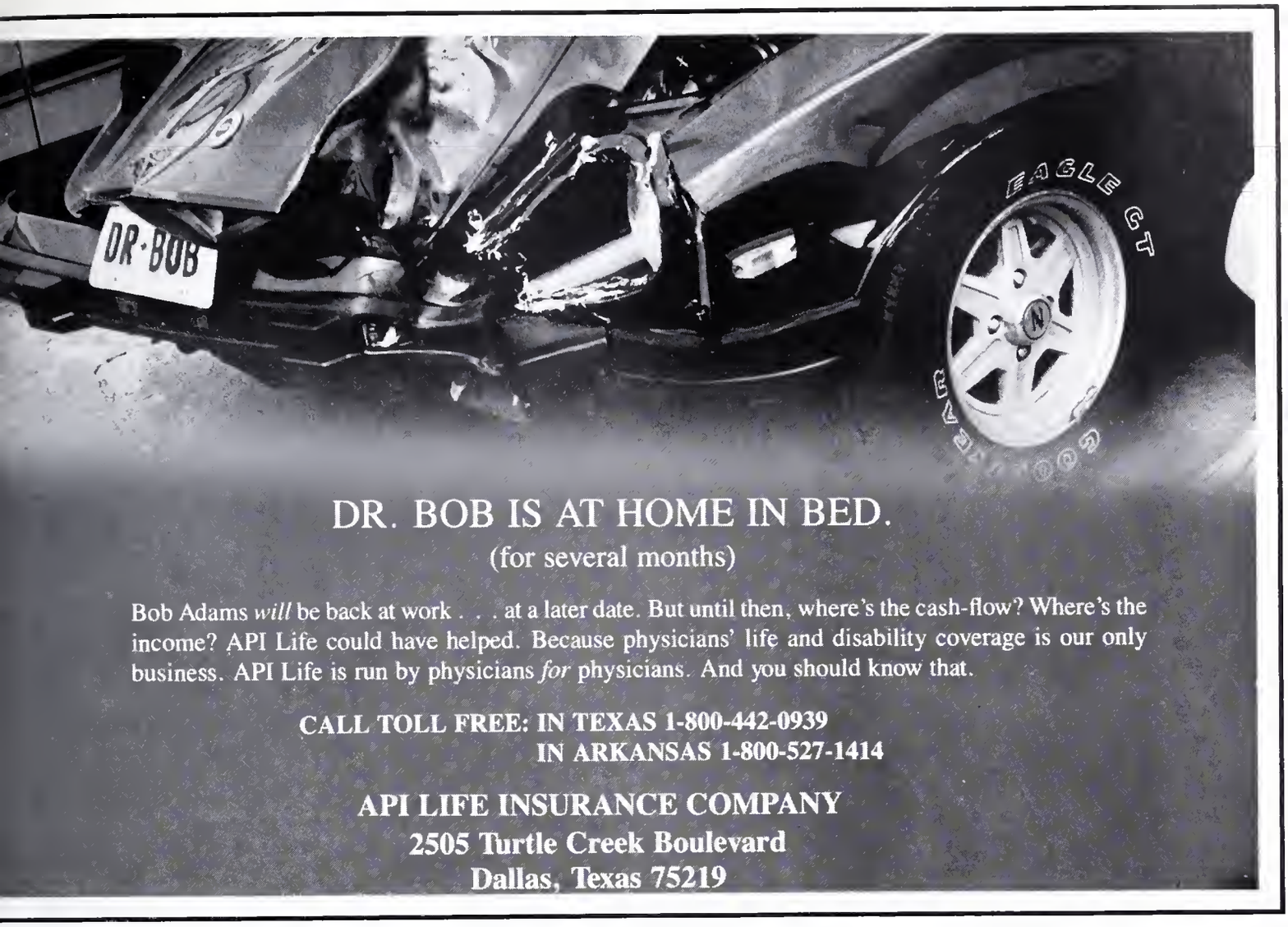
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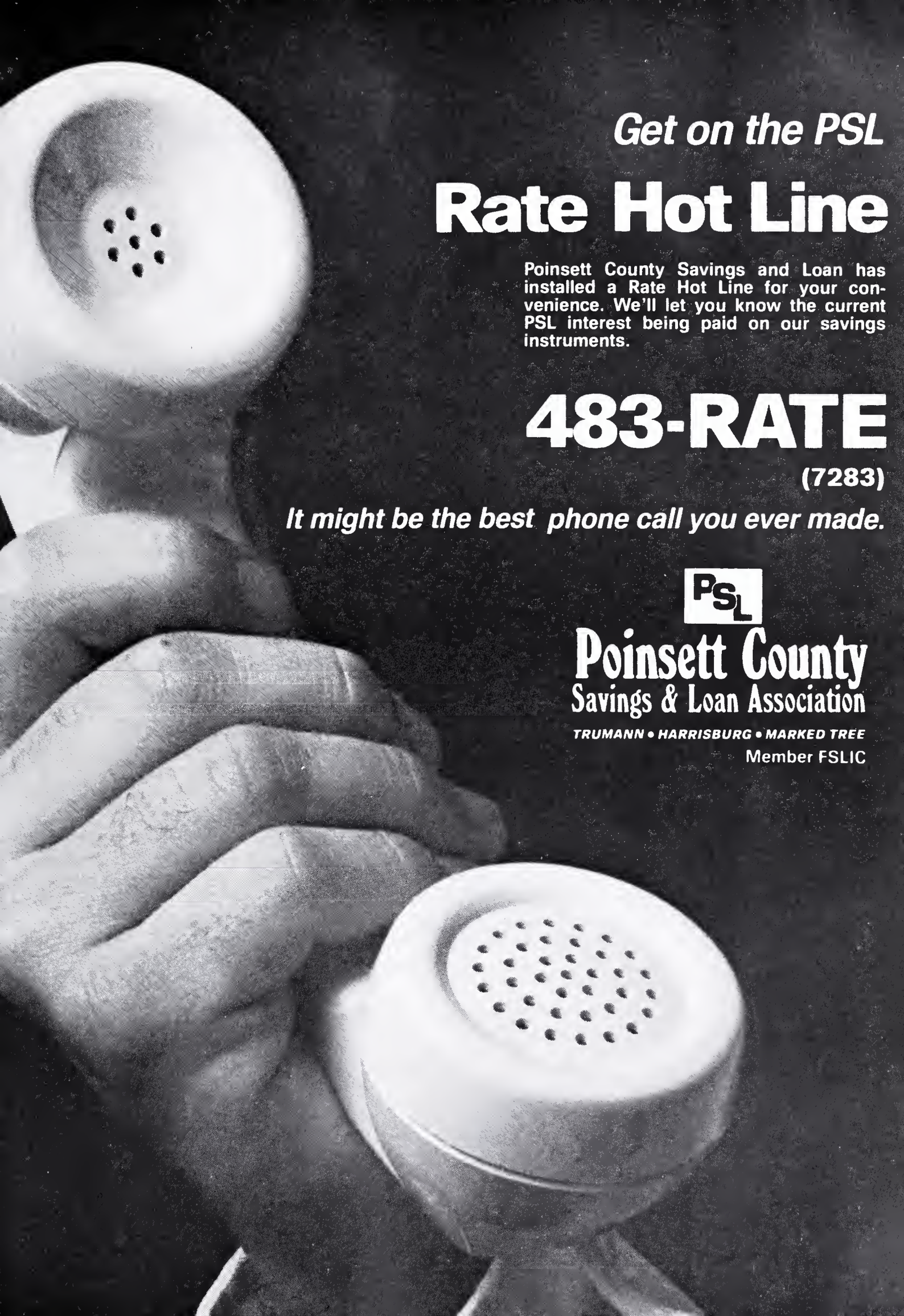
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Endourology Today — Is Stone Surgery Obsolete?

James W. Headstream, M.D., Charles W. Logan, M.D., Johnson J. Baker, M.D., J. Malcolm Moore, M.D., and A. David Hall, M.D.*

In the last few years great strides have been made in endourology, specifically in regards to treatment of renal and ureteral calculi. The percutaneous approach to the upper collecting system has been used for many years, primarily for decompression in obstructive uropathy. The development of techniques to gain access to the upper collecting system for endourological stone extraction has been made possible by the development of an astonishing array of new instruments and close cooperation between the radiologist and urologist. In addition to a percutaneous approach the ureter can now be viewed directly in a retrograde fashion both for diagnostic and therapeutic procedures much in the way a cystoscope is used.

Percutaneous Nephrolithotripsy:

Technique:

The technique of percutaneous nephrostomy (P.N.) has been developed for the most part by our radiologic colleagues and for success with percutaneous stone extraction it is essential to have a team approach between the radiologist and urologist. A P.N. (12-14 F) is inserted most commonly the day before under local anesthesia in the radiology suite, although it can be done the day of surgery or several days before if appropriate. The P.N. is placed in the posterior axillary line, under the 12th rib and enters the kidney in the lower or middle pole calyx, although this may vary according to local anatomy and stone location. Twenty-four hours later the patient is taken to the operating room and under general anesthesia in the prone position the 2nd stage is completed under fluoroscopic control. Two guidewires are passed through the P.N. down the ureter into the bladder and the tract (skin to renal pelvis) is serially dilated over the one guide wire to 26-28 F. The rigid nephroscope (Fig. 1) is then inserted over one guide wire which is then removed. A second wire always remains for safety. The nephroscope is equipped with a relatively large operating port for passage of baskets, forceps and the ultrasound probe under direct vision. After a short time bleeding from the renal parenchyma is tamponaded by the scope and vision is excellent with the renal pelvis, ureteropelvic junction and variable numbers of infundibuli and calyces being visualized. The up-

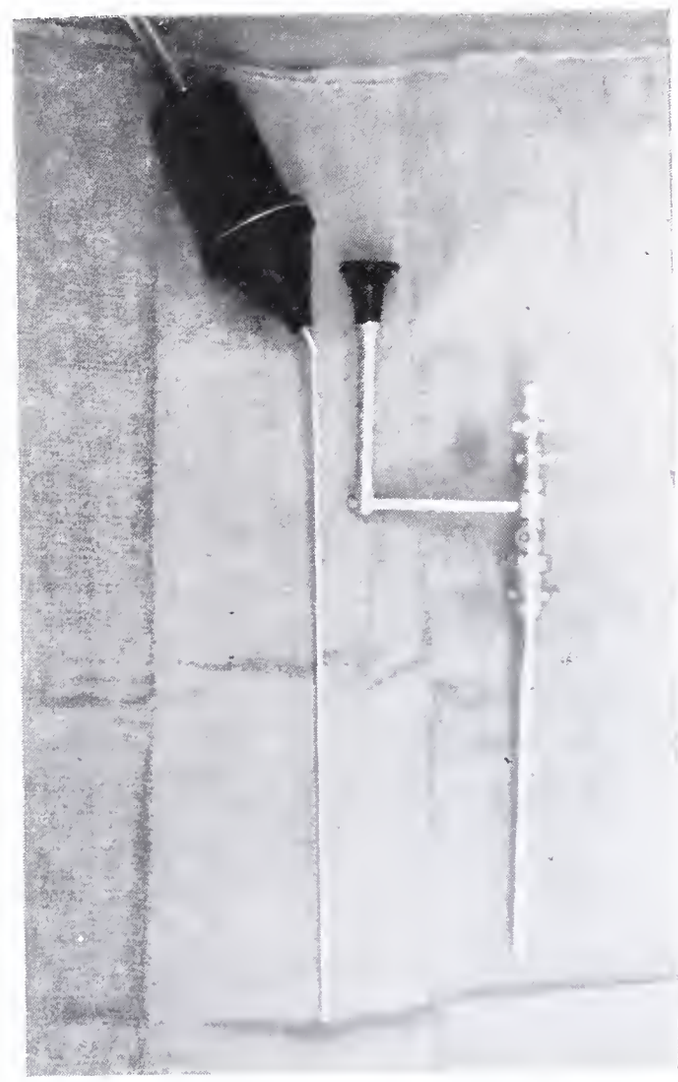


Figure 1: Nephroscope And Ultrasonic Probe

*Urology Associates, 500 South University, Suite 512, Little Rock, Arkansas 72205.

per ureter, if its diameter is of adequate size, can also be entered.

Stones less than 1 cm. can be grasped and removed directly with one of many types of forceps available. Larger stones can be broken up with the ultrasonic probe applied directly to the stone which acts by physically breaking up the calculus with ultrasonic waves at 2,500 cycles per second. The ultrasound causes no tissue damage. Small fragments of stone are sucked up the inside of the probe and larger pieces are grasped with forceps, or irrigated out. The flexible nephroscope is also of use for localizations of stone fragments. Complete stone removal can be accomplished greater than 95% of the time in the appropriate cases which rivals that of open surgery.

Upper ureteral calculi can be approached in an antegrade fashion as well with the scope being passed down a dilated ureter if the anatomy allows or a basket being passed and the stone pulled into the renal pelvis for removal. The success rate is 85 to 90% with upper ureteral calculi.

Following the procedure a nephrostomy tube is placed and 48 hours later a nephrostogram is done. If no extravasation is present and contrast flows down the ureter, the tube is clamped for 12 hours, then removed and the patient is discharged home with plans to return to work usually in one week as compared to six weeks for open surgery. The total hospital time is four to six days.

Stones most amenable to percutaneous approach are renal pelvic, upper ureteral, lower and middle calyceal stones. (Fig. 2) Upper calyceal stones, staghorn calculi and stones behind a very stenotic infundibulum are not usually accessable using this approach. Each, however, needs to be approached on an individual basis depending on the anatomy. The key to success is the proper selection of patients.

The absolute contraindication to a percutaneous approach is a bleeding diasthesis. Obesity, splenomegaly and uncontrolled urinary tract infections are relative contraindications.

Uretero-pyeloscopy:

Also developed within the last few years has been the rigid ureteroscope (Fig. 3) with an out-

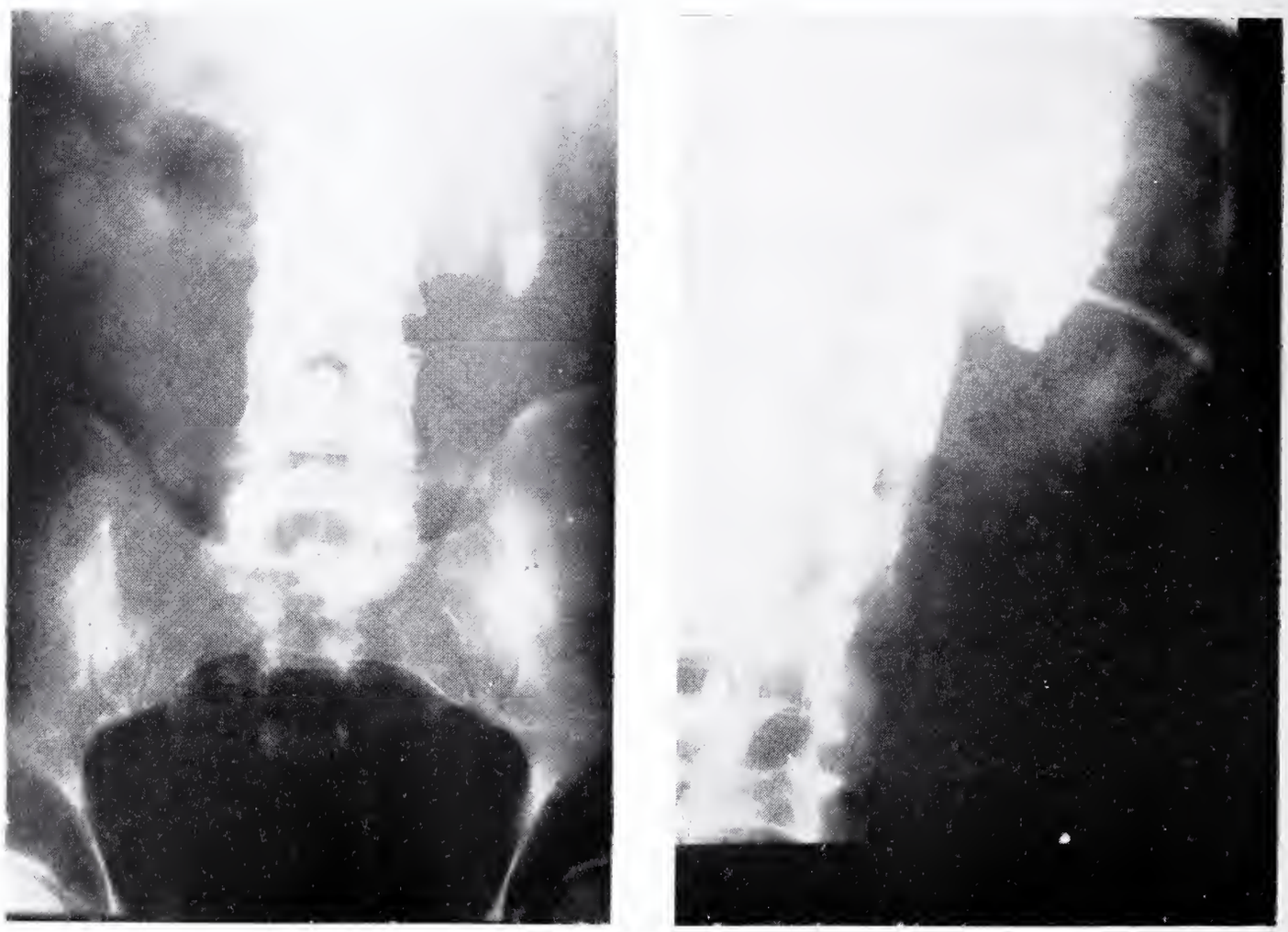


Figure 2: (A) KUB—Large upper left Ureteral Calculus; (B) Nephrostogram Prior to Successful Ultrasonic Nephrolithotripsy.

side diameter of 11.5 F and 45 cm. long. It has excellent optics and a working channel for passage of biopsy forceps, stone baskets or electrodes for coagulation. Retrograde passage of the instrument usually requires dilation of the intramural ureter but the remainder of the ureter is normally of adequate diameter to accommodate the instrument. The scope can be passed under direct vision all the way to the renal pelvis. Lenses with 5° and 70° viewing angle provide excellent visualization.

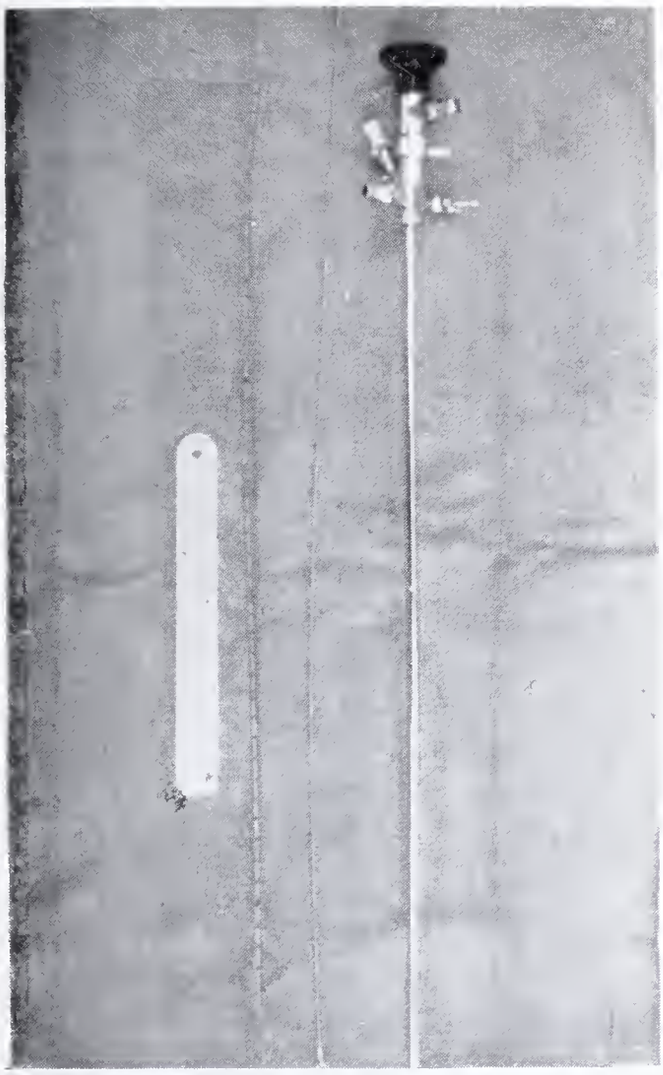


Figure 3: Ureteroscope with Biopsy Forcep and Stone Basket.

The ureteroscope has improved the urologist's diagnostic accuracy for many problem cases and frequently has eliminated the need for open surgery in cases which traditionally required it: differential diagnosis of radiolucent filling defects, treatment and follow-up of small superficial ureteral tumors, manipulation of ureteral calculi and treatment of ureteral strictures.

Large ureteral stones which are engaged in a basket, but are too large to remove can be reduced to a more appropriate size with the ultrasonic probe under fluoroscopic control and extracted. Prior to the development of these techniques calculi which became lodged in the upper ⅔ uniformly required open surgery for removal.

Indications for Endourologic Stone Extraction:

Indications for percutaneous or ureteroscopic stone removal is the same as before the development of these procedures: pain, infection, hematuria, obstruction or documented stone growth over a period of time.

Summary:

Although these new endourological procedures represent tremendous advances in the treatment of stone disease it is not a panacea and does not eliminate open surgery for some stones. The urologist can, with the appropriate studies, make the decision as to the best means of treating an individual patient. With proper selection of patients a high degree of success can be expected. As our experience has grown with these procedures we have been most impressed with the versatility they now afford us in planning treatment for patients with surgically active stone disease.

In this day of ever increasing patient awareness of treatment modalities available to them the new endourological approach to renal and ureteral calculi should be offered if appropriate. The advantages over open surgery are obvious with shorter hospitalization, lower morbidity and less time off from work.

Intra-Operative Ultrasound: A Window to the Brain

William A. Chadduck, M.D.**

For many years ultrasonic modalities have been helpful diagnostic tools in medicine. Ultrasonic imaging of fetuses has become a routine in many obstetrical practices, and more sophisticated equipment has allowed imaging of the cardiac chambers and peripheral arteries, especially the carotids. Neurosurgeons have used ultrasound for decades, the first application being to determine the position of midline structures in patients suspected of having intracranial tumors or hematomas;[1] however, earlier systems had many limitations.[2] Advances in technology have made possible the use of intra-operative ultrasonic imaging making many neurosurgical procedures more precise and safer.[3] Recent experience with intra-operative ultrasound has borne out its advantages and allows us to demonstrate some of them in this communication.

Methods and Clinical Cases

The neurosurgical ultrasound system used at the University of Arkansas for Medical Sciences is a sector scanner dedicated for cranial and spinal use. Produced by ATL,* the NeuroSectOR system has a scanning head with three frequencies

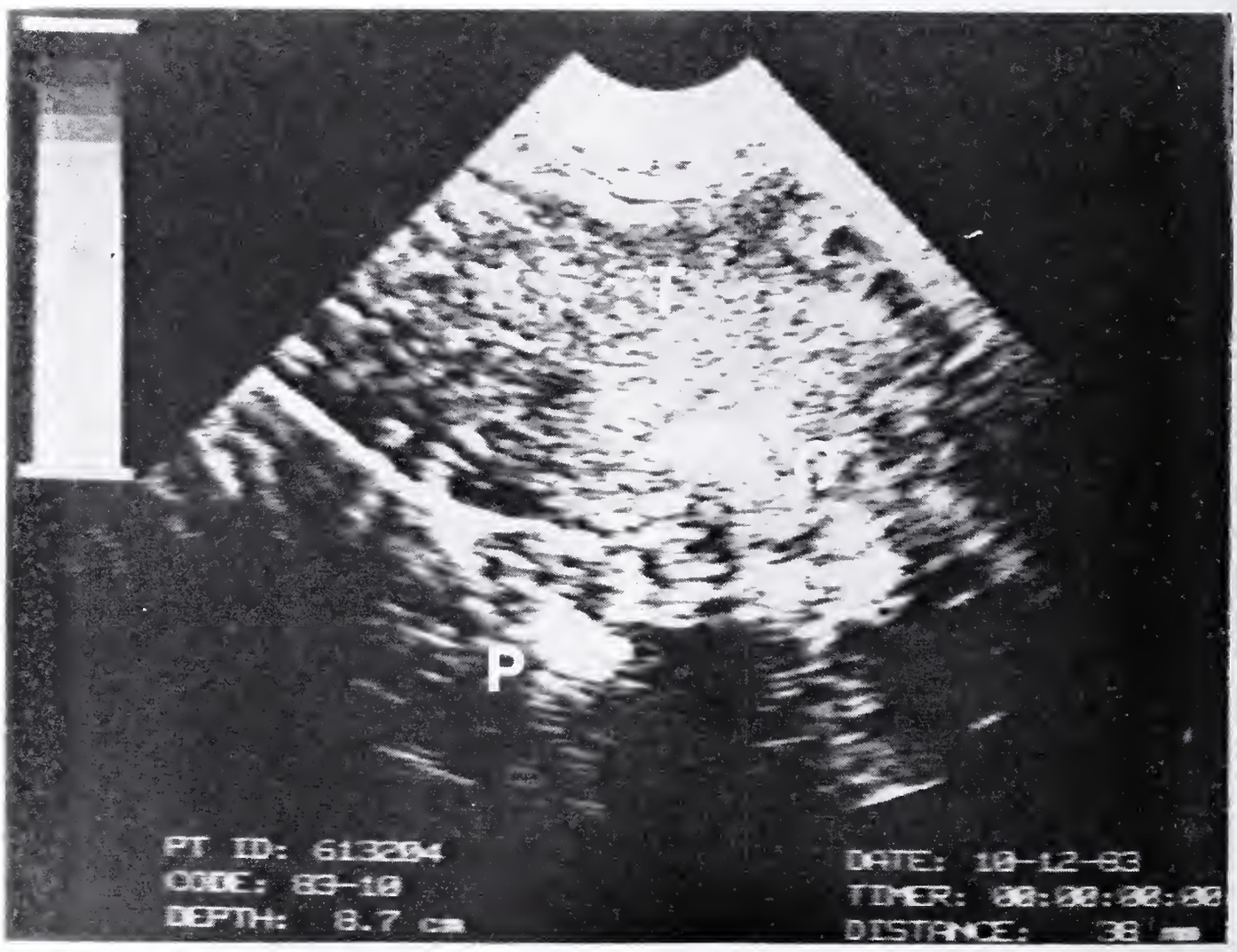


Figure 1.
Intra-operative sonogram shows the tumor (T) extending into the tentorial notch, displacing the pineal gland (P) and incorporating the choroid plexus (C).

**Department of Neurosurgery, University of Arkansas for Medical Sciences, Little Rock, Arkansas.

and a range of power settings for easy use. The unit is kept in the operating room and can be fitted with appropriate sterile drapes for use in an operative field. The scan head can be fitted with a small stereotaxic device in combination with a target cursor which together provide for extremely accurate localization of intracranial anatomic structures and pathologic conditions. The following cases demonstrate some of the uses for intra-operative ultrasonic localization:

CASE 1. A patient with a deep brain tumor shown on CT scanning had a lesion considered to be unresectable due to the neurologic deficit expected from approaching the region by open (Figure 1), the tumor was easily sampled. The diagnosis of anaplastic glioma was confirmed for surgery. Using the stereotaxic ultrasonic biopsy treatment on a grain tumor protocol.

CASE 2. A patient with a large cystic lesion of the pons (Figure 2) had decompression of the cyst using ultrasonic guidance (Figure 3) and placement of a reservoir and tube (Figure 4) for future aspirations and treatment. Ordinarily operative procedures directed at the pons are fraught with an extremely great morbidity.

CASE 3. A patient with a tumor in a very edematous dominant frontal lobe had the lesion easily localized (Figure 5) and totally removed

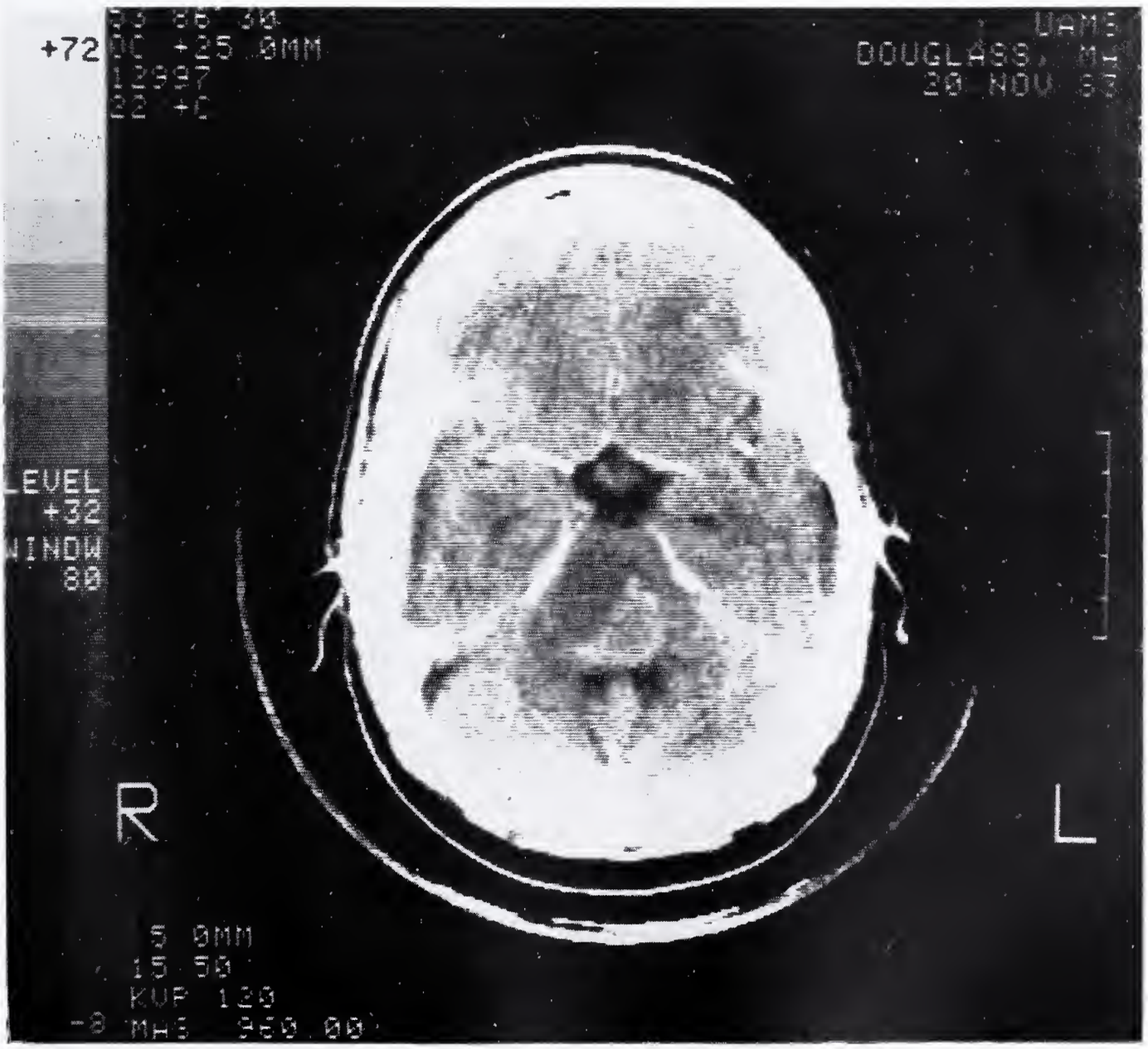


Figure 2.
A CT scan shows the large cystic pontine lesion.

with minimal exploration and an excellent post-operative neurologic outcome.

CASE 4. A patient with a retained bone fragment from a gun shot wound of the brain had the fragment easily localized (Figure 6) and removed. Retained bone fragments are a frequent cause of brain abscess and should be removed if they can be localized and approached without undue brain retraction and exploration.

CASE 5. A patient with central nervous system leukemia had very small ventricles, making placement of a ventricular catheter for chemotherapy a challenging task. However, using ultrasonic guidance, the cathether was introduced into the proper location without difficulty (Figure 7).

Discussion

Computerized scanning of the brain remains one of the best preoperative diagnostic studies. Various programs allow precise preoperative and, in conjunction with newer stereotaxic devices,[4] intra-operative localization. Since very few operating rooms are equipped with CT scanners, ultrasonic scanning, because of its mobility, ease of application, and cost effectiveness, has become a major help to the neurosurgeon attempting to locate and remove small or deep-seated lesions within the central nervous system. By having a noninvasive localizing technique at the operating table, the surgeon not only can find lesions within the brain with minimal dissection and retraction but can also avoid areas of critical importance by imaging their presence and distance from the pathologic processes. In addition, the surgeon can re-scan the operative field sequentially during the surgical procedure to examine the extent of removal of the pathology. Finally, it is possible to inspect the areas of resection for occult bleeding within a deep operative cavity.

Using a stereotaxic device, lesions which might otherwise not be directly approachable by surgery can be sampled using specially designed ultrasonic

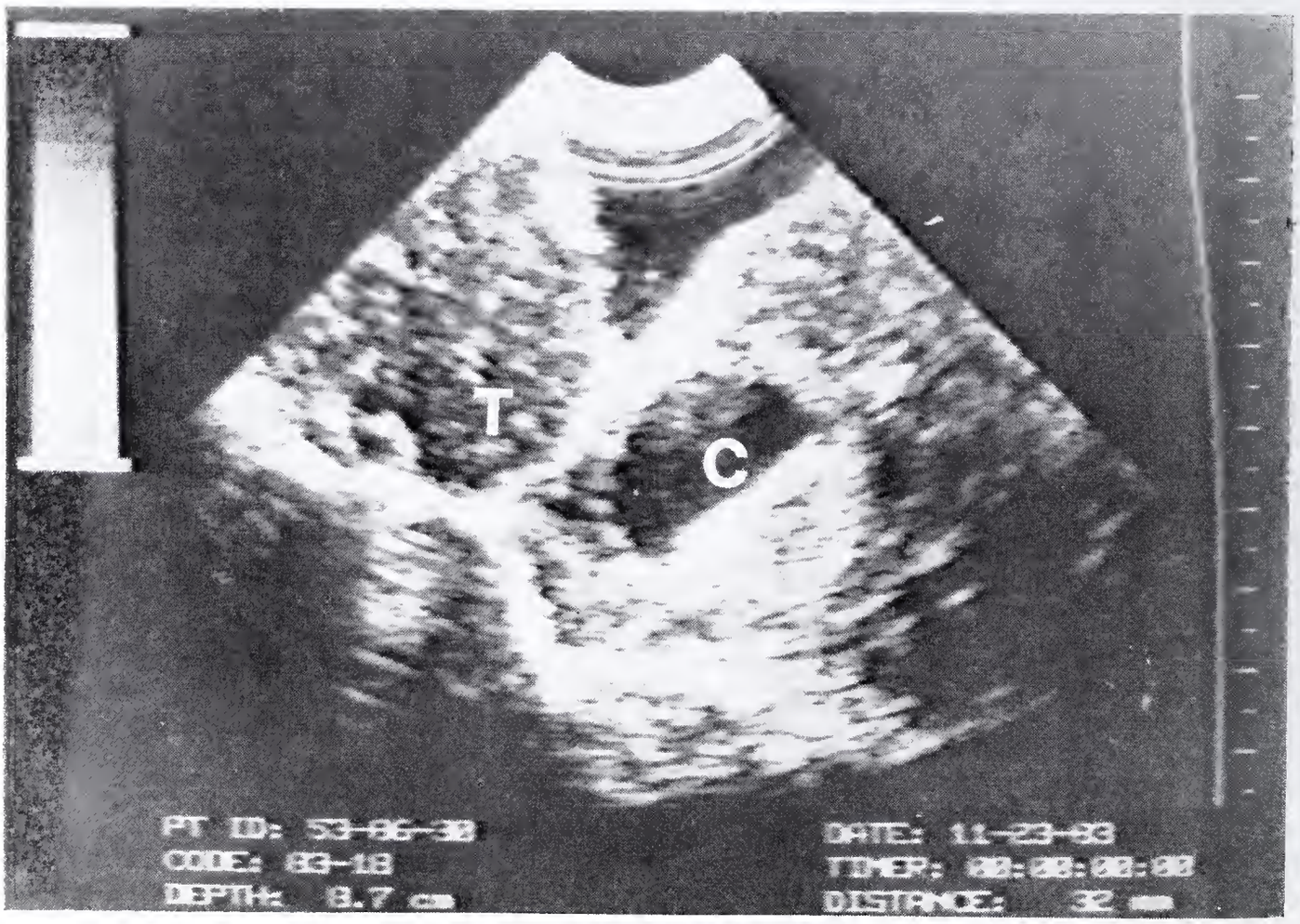


Figure 3.
Intra-operative sonography directs the transtentorial approach to (C) the cyst beneath the temporal lobe (T).

probes.[5] The low morbidity of such a procedure justifies the need for a tissue diagnosis, especially with the increasing modalities for treatment that are becoming available. Although bleeding can occur from a biopsy site, the risk is minimal; in a large series of patients the actual incidence of bleeding that required surgical treatment was less than one percent.[6]

Intra-operative ultrasound is being used more frequently in neurosurgical operations and is finding its place as an extremely helpful localizing tool, not only in the brain, but also in the spinal cord. The equipment is mobile and relatively inexpensive when compared to a computed tomographic unit. The imaging technique is non-invasive from the patient's standpoint, and offers no hazards, such as radiation, to operating room personnel.

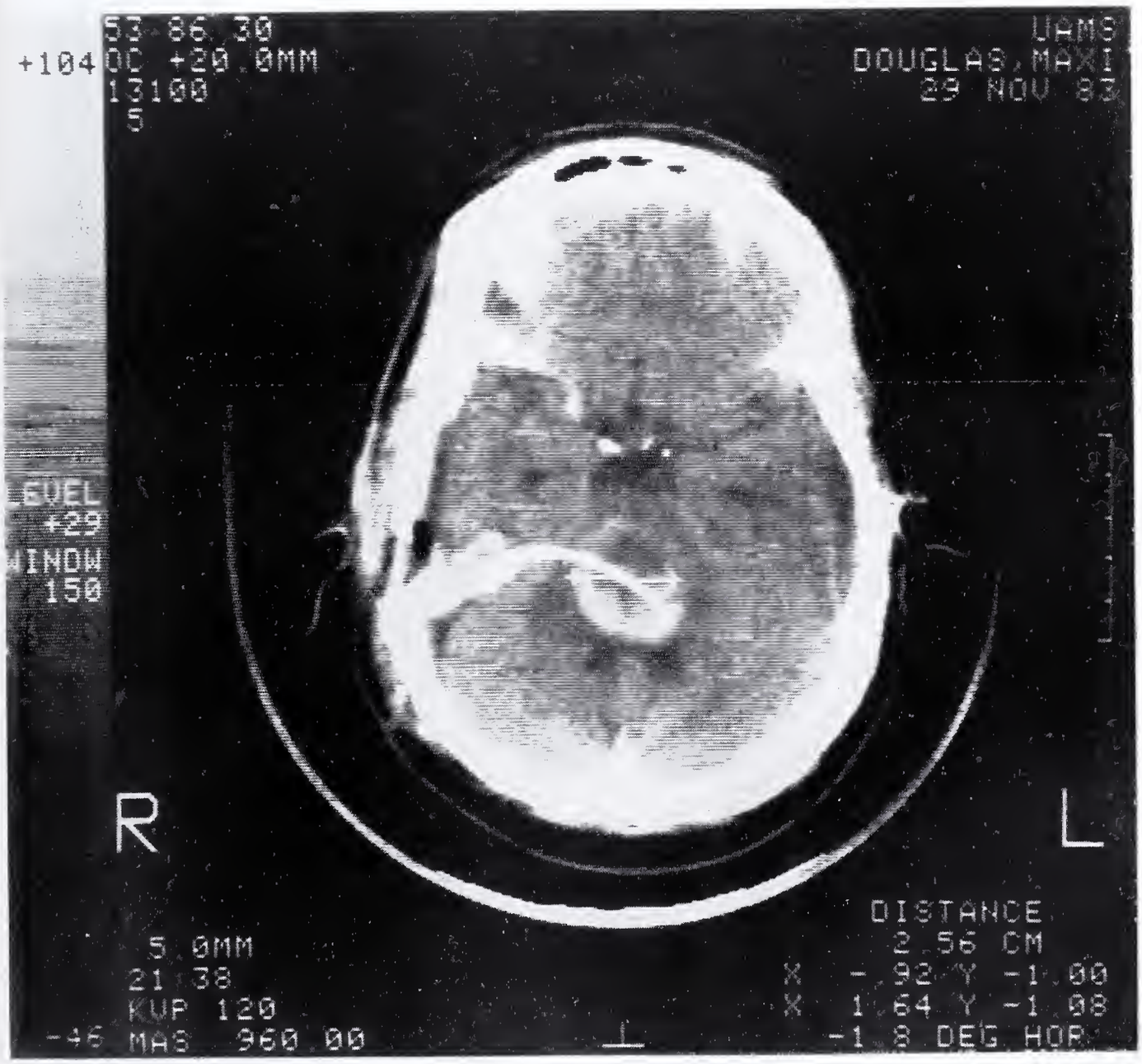


Figure 4.

Post-operative CT scan shows the silastic tube within the cavity of the lesion.

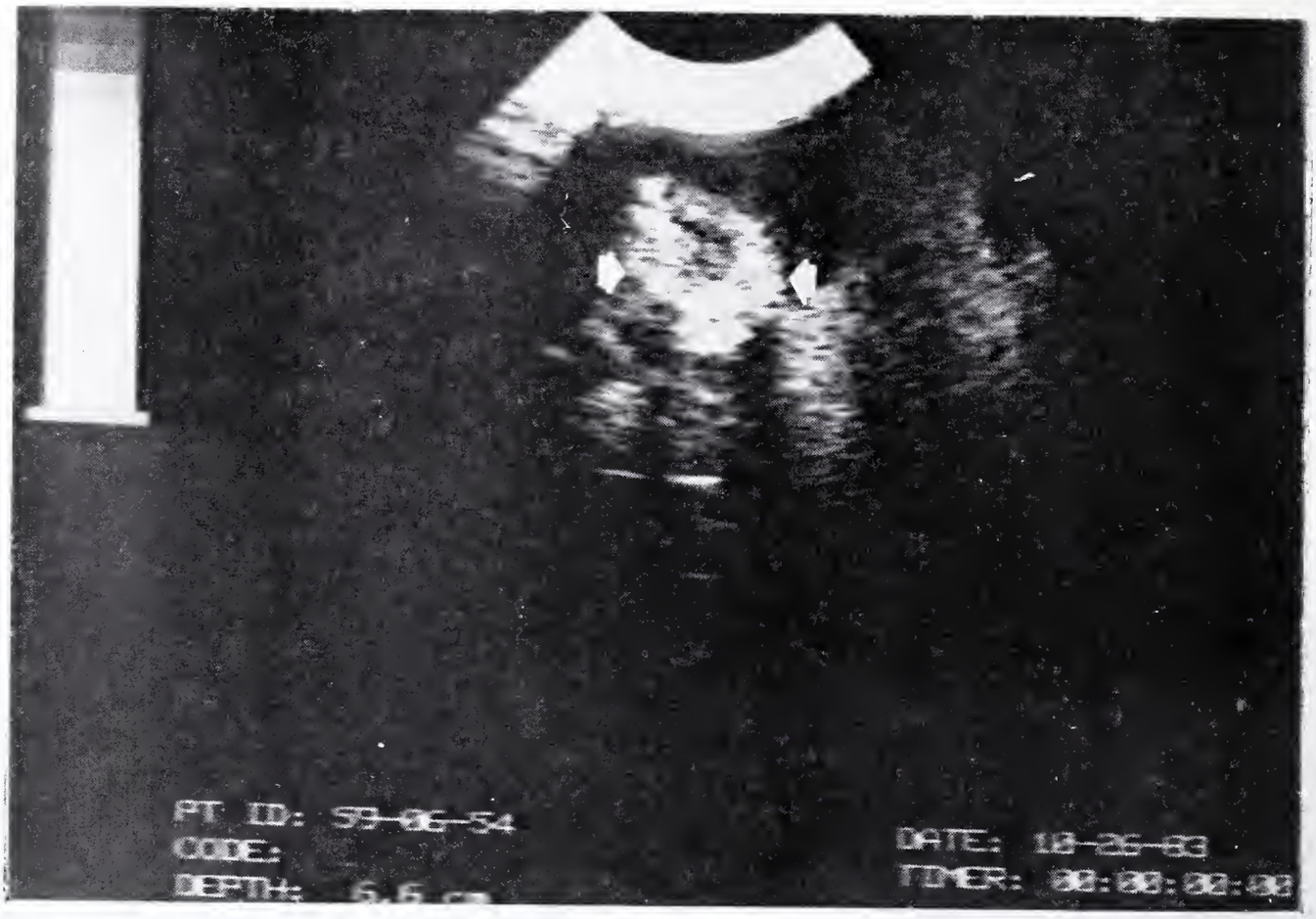


Figure 5.
Intra-operative sonogram demonstrates the large tumor (arrows) beneath the surface of the frontal lobe.

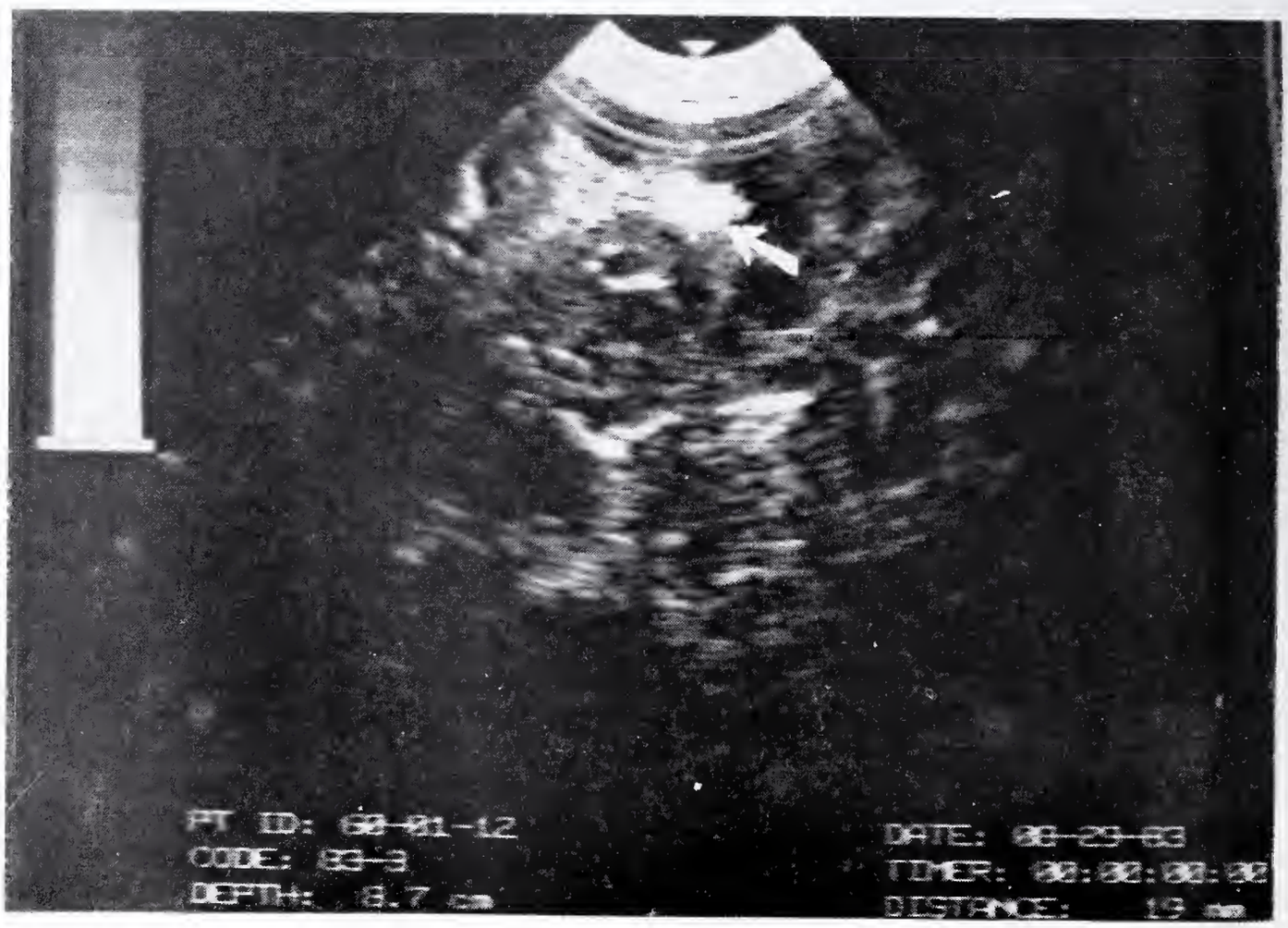


Figure 6.
The white hyper-echoic object (arrow) seen on the sonogram is the retained bone fragment.

Summary

Technological improvements in clinical ultrasound systems have made available a unit for intra-operative localization of lesions within the central nervous system. As shown by the selected cases presented, intra-operative ultrasound allows certain difficult neurosurgical problems to be managed with reduced morbidity.

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*ATL NeuroSectOR ultrasound system is manufactured by Advanced Technology Laboratories, Bellevue, Washington.

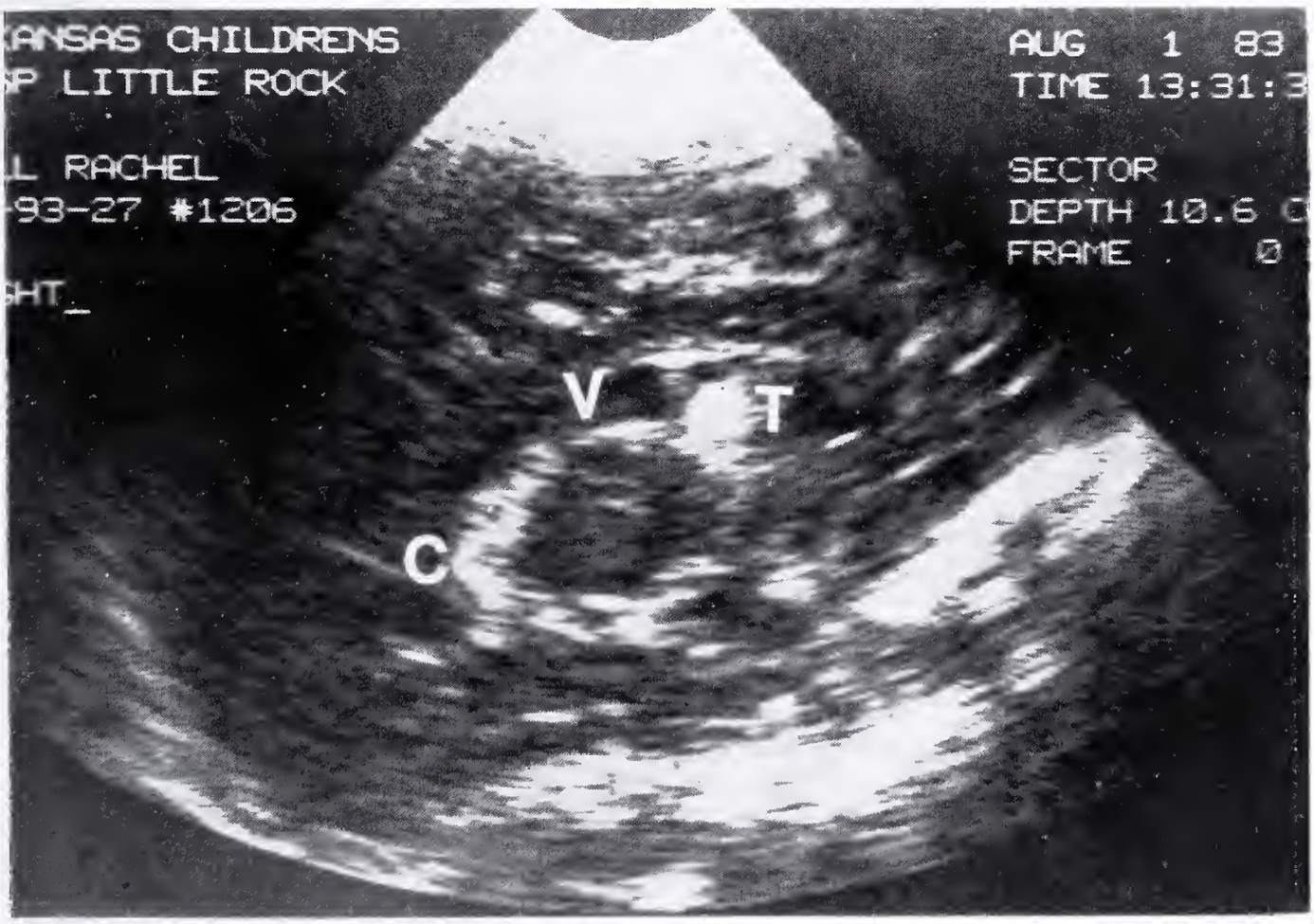


Figure 7.

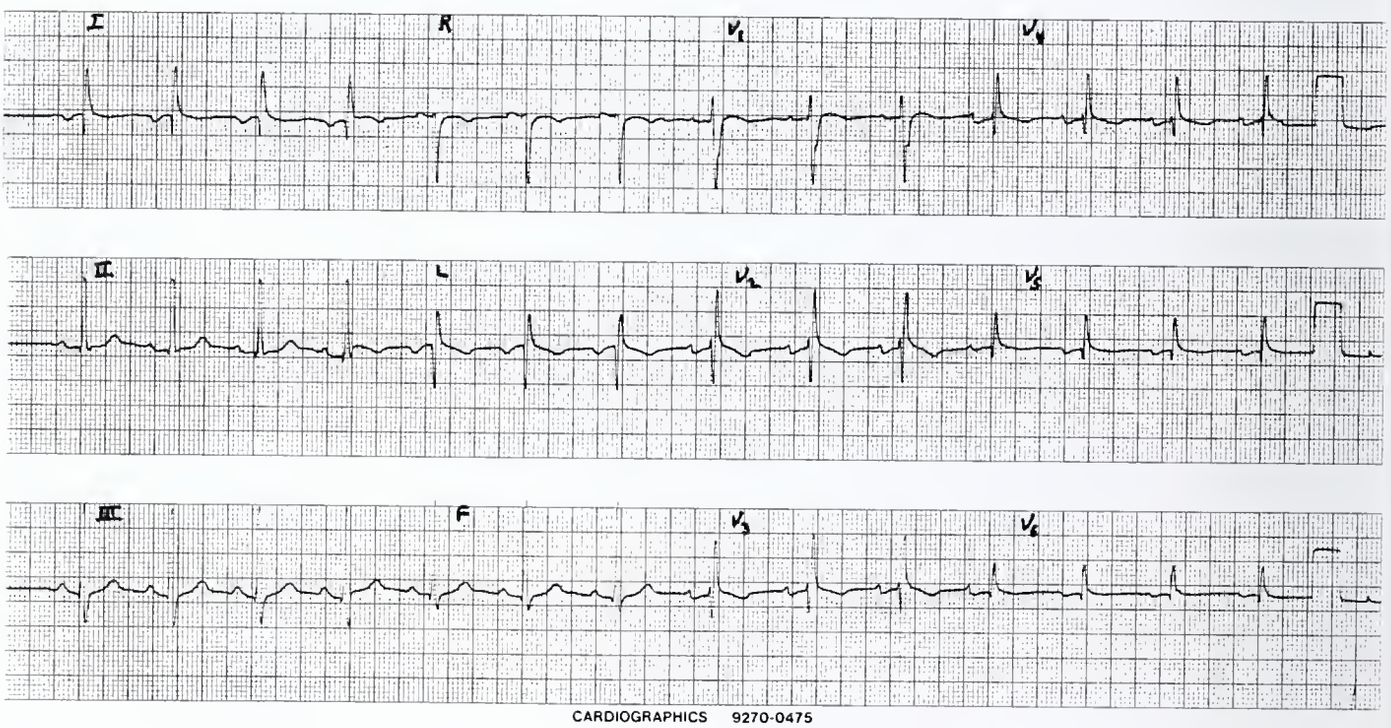
Intra-operative sonogram in the parasagittal plane shows the small lateral ventricle (V) with the tip of the Ommaya catheter (T) in the frontal horn. The choroid plexus (C) is also seen.

ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See **Answer on Page 176**)

HISTORY: J. M. is a 24-year-old man who has presented with atypical chest pain. His past history was important in that pulmonic dysplasia had been partially corrected years previously. He had a family history positive for congenital heart disease, both in male and female family members. His general physical examination was positive in that he was of short stature and had epicanthal folds, ptosis of the eyelids, strabismus, and webbing of the neck. His liver was on the left side of his abdomen. The cardiac examination was positive with respect to the presence of a grade two of six diastolic blowing murmur at the right sternal margin. The point of maximal cardiac impulse was on the right side of his chest. What do you think about his heart disease and his electrocardiogram?



CARDIOGRAPHICS 9270-0475

Andy Henry, M.D., and John W. Watson, M.D.
VA Medical Center
and
University of Arkansas for Medical Sciences
Little Rock, Arkansas



Office Orthopaedics

Traumatic Dislocation of the Hip

Richard A. Nix, M.D.*

Familiarity with this true orthopedic emergency is essential for any physician evaluating motor vehicle accident victims. Traumatic dislocation of the hip requires prompt diagnosis and reduction—delayed treatment will guarantee a poor clinical result. Multiple system trauma is frequent in road accident victims. Life threatening head, chest and abdominal injuries must be evaluated and treated, but it is commonly known that unrecognized orthopedic injuries are often the patient's most significant residual impairment.

Dislocation of the hip joint occurs both in an anterior and posterior direction (see Figure 1). Either may be associated with acetabular fractures. The anterior dislocation is exceedingly rare and will not be detailed in this discussion. Certain principles of anatomy, patient evaluation and treatment are applicable to all hip dislocations, however, and will be outlined.

There are many classifications of posterior hip



Figure 1.
Posterior dislocation of the left hip is seen with a small acetabular fracture fragment.

*Little Rock Orthopedic Clinic, 9500 Lile Drive, P. O. Box 5270, Little Rock, Arkansas 72215.

dislocation and these are generally based on the pattern of associated fractures of the acetabulum which have occurred.[2] These fractures determine in part (a) the stability of the hip following reduction, (b) the incidence of retained bone fragments in the joint space and (c) the status of joint congruity following reduction.

The mechanism of injury is almost invariably a motor vehicle accident in patients with a posterior dislocation of the hip (see Figure 2). It is exceedingly rare to see this injury occur in the passenger wearing a seatbelt. In a head-on collision, the forward momentum of the unsecured passenger is halted by the dashboard. Axial loading on the acutely flexed knee through the femur is transmitted to the acutely flexed hip. It is very common to see associated orthopedic injuries to the knee ligaments, patella and femur. The more adducted the hip at the point of impact, the more likely is a pure dislocation without associated fracture. Mild to moderate abduction at the moment of impact results in a fracture of the posterior acetabular wall. Large posterior fracture fragments cause joint instability even after accurate reduction. Associated with this mechanism of injury are facial lacerations, skull trauma, blunt chest trauma and intra-abdominal injuries. This "dashboard syndrome" should alert the emergency physician to search for associated hip and knee trauma.

Physical diagnosis of the acutely dislocated hip is quite easy. The posterior position of the femoral head causes the extremity to lie adducted, flexed and internally rotated (see Figure 3). There is also apparent shortening of the extremity. The alert patient will, of course, complain of excruciating hip pain. An ipsilateral femoral fracture negates this typical posture seen in a posteriorly dislocated hip. An AP pelvis x-ray *must* be obtained on all patients with femoral injuries to document satisfactory position of the hips. Frequently these patients are comatose and cannot volunteer a history. A systematic inspection of the skeletal system is imperative in this setting. Cervical spine, shoulders, arms, thoracolumbar spine, pelvis, hips and legs should be evaluated after removal of clothing. Swelling, false motion or crepitus should be evaluated with x-rays. Neurovascular checks should be documented.

After diagnosis of a dislocated hip, careful neurovascular exam is important. The sciatic



Figure 2.
When the acutely flexed knee and hip strike the dashboard after collision, dislocation is frequent.

nerve exists through or below the piriformis muscle posterior to the femoral head. It is injured in ten to thirteen percent of dislocated hips.[6] The peroneal portion of the sciatic nerve is injured more frequently, although complete paresis can occur. Vascular injury is rare.

Adequate x-ray evaluation includes an AP pelvis in true lateral of the involved hip (see Figure 1). The dislocation is obvious. The presence and extent of posterior acetabular fracture should be checked. This helps determine the degree of stability expected postreduction and the need for operative stabilization. Femoral head fractures are often associated with this injury and they demand surgical reduction.

The vascular anatomy of the femoral head is one of the prime reasons that delayed reduction precludes a good clinical result (see Figure 4). The medial femoral circumflex artery (#1) supplies the majority of the head and neck including postero-inferior neck arteries, postero-superior neck arteries and the supero-lateral portion of the femoral head. The artery through the ligamentum teres (#3) supplies a very small portion of the medial head. Minor contributions from the lateral femoral circumflex artery (#2) to the neck are present also. This tenuous circulation to the femoral head is likely interrupted at the time of dislocation and rapid reduction may help to restore blood flow to the femoral head.

Reduction. After basic diagnostic studies are expeditiously completed, reduction of the dislocated hip should be undertaken. Most frequently, this can be accomplished with a closed maneuver. The most commonly used technique is the Allis maneuver. With the patient supine on the emergency room table satisfactory sedation is obtained. A combination of intravenous meperidine and diazepam is usually quite effective. Traction on the extremity in line with the deformity is carried out, followed by gentle flexion of the hip to ninety degrees. Usually this requires standing on the patient's bed to generate sufficient traction. The pelvis must be stabilized by an assistant and this is followed by gentle internal rotation of the hip. Adequate muscular relaxation is imperative. Usually the dislocated femoral head can be delivered over the acetabular rim by this maneuver and replaced in its normal position. Immediately after reduction, while IV sedation is still present, the hip should be tested to near



Figure 3.
Inspection shows a flexed, adducted and internally rotated right lower extremity with apparent shortening.

ninety degrees of flexion for evidence of residual instability. This is very important as instability at this point may demand surgical stabilization. A technique of reduction with the patient prone called a modified Stimson maneuver is described but will not be discussed here. Immediately following reduction, a repeat neurovascular exam including function of the sciatic nerve is necessary. Follow-up x-rays at this point to document reduction are obtained. Attention on the lateral x-ray to the posterior acetabular rim is important. Rarely on the AP x-ray can retained boney fragments be seen in the joint space, but widening of the medial joint space is suggestive of their presence.

Irreducible dislocation of the hip must be immediately taken to the operating room for open reduction. Common causes are buttonholeing through the posterior hip capsule by the femoral head and entrapment of the piriformis muscle and tendon anterior to the femoral head and neck at the time of attempted reduction. A posterior surgical approach through the site of the pathology and a usual Moore exposure allows for (a) unobstructed reduction of the femoral head, (b) repair of the posterior femoral capsular tear

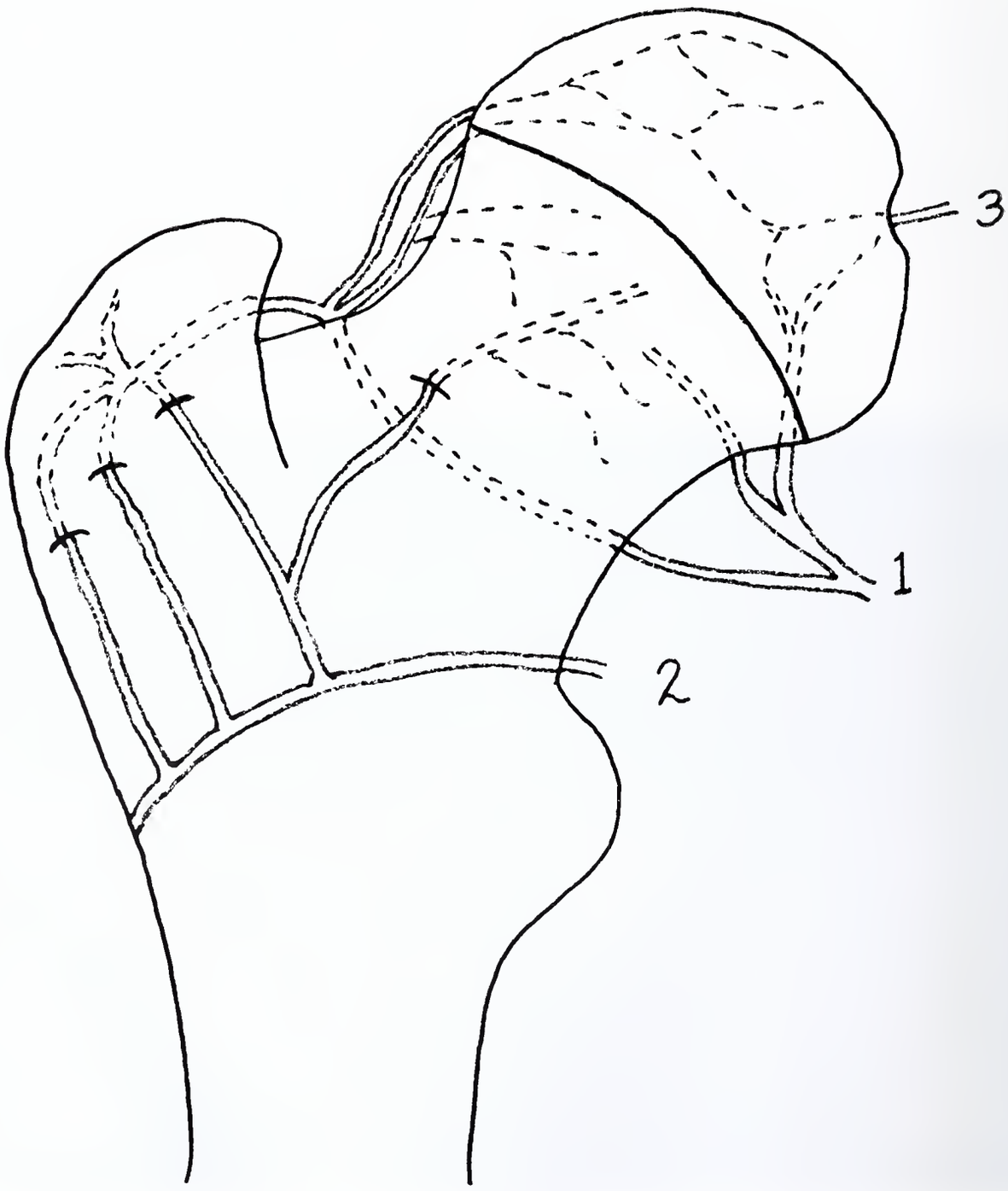


Figure 4.
Vascular anatomy of the femoral head (see text). Redrawn from Hollingshead.[5]

for improved stability, (c) inspection of the sciatic nerve, (d) internal fixation of posterior acetabular fractures if warranted, and removal of any retained bone fragments in the joint.

Following hip reduction, two factors must be ascertained: joint stability and joint congruity. The previous section described testing for joint stability immediately postreduction. Evaluation of joint congruity has improved markedly with the advent of computerized tomographic scans. Plane x-rays are a rough guide for retained boney fragments in the acetabulum as noted above. Standard tomographic cuts have been used in the past successfully, but CT scanning of the hip is currently the definitive procedure to evaluate an injury of this type (see Figure 5). Retained boney fragments in the acetabulum originate either from the posterior acetabular rim or boney avulsions from the femoral head at the insertion of the ligamentum teres. This same CT scan also assists in the evaluation of posterior acetabular rim fractures and occult femoral head fractures.[7]

Surgical indications[4] in posterior dislocation of the hip include:

1. Acutely, in irreducible dislocations.
2. Subacutely, in reduced dislocations with residual instability on testing.
3. Subacutely, on stable, reduced dislocations with retained bone fragments in the joint as documented on CT scan.
4. Late procedures for complications of avascular necrosis of the femoral head or arthrosis of the joint.

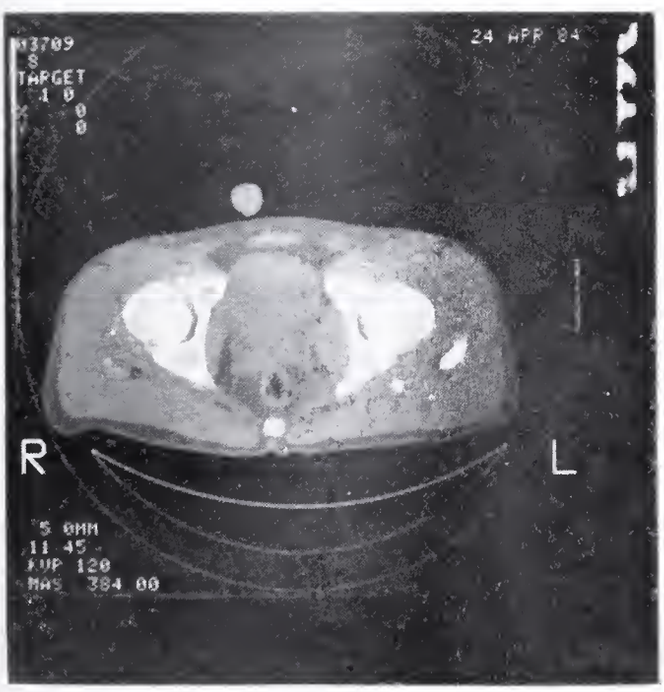


Figure 5.
CT scan after reduction shows a retained boney fragment in the left hip joint and small acetabular fracture fragments.

As mentioned earlier, acute and subacute surgical measures are generally carried out through a posterior approach. Figures vary, but approximately half of the injured hips will require acute or subacute surgery for the above indications.

In the event of successful closed reduction of a dislocated hip and negative evaluation for problems of retained bone fragments or joint instability, various regimens have been recommended. Most authors use short term immobilization in gentle skin traction for five to seven days until pain diminishes. The hip should be maintained in extension and abduction. Extremes of flexion beyond sixty degrees or excessive adduction may result in redislocation of the joint. After five to seven days crutch ambulation can be resumed, again with protected motion in the joint. Avoidance of weight bearing has not been shown to be of distinct benefit in improving the prognosis.

Complications. Injury to the sciatic nerve is found in ten to thirteen percent of traumatically dislocated hips. If this is due to pressure on the nerve from the dislocated femoral head, this is often relieved immediately on reduction of the hip. Posterior boney fragments from a fractured acetabulum may impinge on the nerve even after reduction. Nerve recovery is seen in sixty to seventy percent of cases.[3] The reported incidence of avascular necrosis following this injury is quite varied. Rates from ten to seventy percent have been reported. Authorities do agree, however, that early reduction minimizes the chance of this dreaded complication. Necrosis and collapse of a femoral head in a young MVA victim will likely require multiple reconstructive procedures during the patient's lifetime. Six weeks after injury a follow-up bone scan with pinhole collimator views of the injured hip including a one minute blood pool image and three hour bone image will help determine the viability of the femoral head.

Late degenerative changes in a previously dislocated hip were reported by Epstein in 1973 as varying from seventeen to thirty-five percent.[3] Newer technology in evaluating these injured joints may reduce this incidence of late complications.

Prevention. Surprisingly little is said of prevention in orthopedic injuries. A recognizable cause and effect is necessary in any prevention

program (e.g. hyperlipidemias and organic heart disease). Seatbelt wearers do not have dislocated hips in automobile trauma unless the entire engine is impacted into the front seat (see Figure 2).[1] Patients need counseling in this aspect of "preventive medicine" just as any other.

The importance of early treatment of acute hip dislocations is demonstrated. Diagnosis is easy—if the diagnosis is entertained. Previous authors have recommended open exploration of all dislocated hips for removal of retained boney fragments, but newer technology as demonstrated in Figure 5 will obviate surgical intervention in some cases. CT scanning in the transverse plane beautifully demonstrates the anatomy of this area following reduction. Finally, it should be noted that preventive medicine works. This is almost exclusively an affliction of nonseatbelt wearers—their use should be advocated.

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Mosquitos A Continuing Problem

Harton Spatz, and T. C. McChesney, D.V.M.*

Mosquitos have probably had a greater influence on human health and well-being throughout the world than any other insect. This is not due wholly to the important human diseases they transmit, but also to severe annoyance they cause.

Mosquitos cause great suffering and economic loss because of their blood sucking habits. They are vectors of *Malaria*, *Yellow Fever*, *Dengue*, and *Filariasis*. Fortunately, control programs have now reduced these diseases to a minor or historical importance in the United States. On the other hand, epidemics of four types of *Encephalitis* continue to occur in many parts of this country.

St. Louis Encephalitis virus is transmitted primarily by the *Culex* mosquito and is the most frequent arboviral encephalitis in Arkansas and surrounding states. Flooding of the Colorado River in the spring of 1983 resulted in the expansion of the mosquito population and an outbreak of St. Louis Encephalitis in California and Arizona. The virus is transmitted directly from birds to man. Bird and mosquito trapping to check for the presence of the SLE virus is often a useful tool in predicting outbreaks of the disease.

Acute and convalescent sera from suspect patients may be submitted to the Arkansas Department of Health for antibody testing.

Western Equine Encephalomyelitis is more widespread than the Eastern Equine Encephalomyelitis but is less fatal; mortality in horses is usually 20-30% and 10% in man. The virus is transmitted principally by *Culex tarsalis* which can be transmitted to man from infected birds and horses.

Eastern Equine Encephalomyelitis infections in man are much rarer than WEE but are much more severe with mortality as high as 74%. The main vector is *Culiseta*. The main reservoir in the U. S. is birds and outbreaks with high mortality can occur in pheasantries.

California Encephalitis and related La Crosse Encephalitis virus causes a number of cases of encephalitis mostly non-fatal in the North and central states. *Culex* and other genera of mosquitos have been shown as vectors and it is likely that the virus can overwinter in mosquito eggs. Antibodies have been found in outdoor workers and it is suspected that rabbits, hares and rodents are reservoirs.

Virus isolation from mosquitos and serological testing of reservoir animals and birds is often a useful procedure in planning intensified mosquito control and spraying programs.

Because mosquitos play an important role in the transmission of encephalitis, and cause great discomfort and misery by their bites, there has been a great expansion recently in mosquito control activities.

Arkansas has 53 species of mosquitos. Each species has its own life cycle characteristics. Variations of how eggs are laid are: laid singly on water, glued together to form rafts which float, laid on the ground in flood plains, and laid above the water line.

Some species prefer large bodies of water; others use artificial containers and/or tree holes. Some prefer polluted water.

Of the eggs that are laid on water, they generally complete their life histories (egg, larva, pupa and adult) in 7 to 14 days. Species that laid on the ground also vary. Some produce a brood that hatch off all at once; others are programmed to hatch off at different flooding during the year or even subsequent years. Those that laid above the water line hatch when the water level rises. All mosquitos do go through a complete metamorphosis.

The flight range of adult mosquitos range from a few hundred feet to 10 miles.

All these factors add up to making the control of mosquitos a difficult task. Many areas of

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Arkansas are plagued with a severe mosquito problem. Effective methods of mosquito control have been developed. These methods include the identification of the problem species, elimination of their breeding sites, larvaciding where breeding areas cannot be eliminated, and adulticiding. The most effective organizations that have been developed to implement these methods are mosquito abatement districts. These districts are set up under authority of the State to control mosquitos. Arkansas has enabling legislation, Act 222 of 1953, to set up and fund mosquito abatement districts. There have been no abatement districts formed in Arkansas. The Arkansas Department of Health is interested in working to help set up districts. Effective mosquito control in our state would add a lot to environmental health and quality of life in many areas of our state.

ANSWER—Electrocardiogram of the Month

DISCUSSION: The patient most likely has Noonan's syndrome which has been alluded to in the literature as "male Turner syndrome". It is inherited as an autosomal dominant trait. The cardioc lesions include valvular pulmonary stenosis, atrial septal defects, and hypertropic cardiomyopathy. This patient has dextrocardia and situs inversus, incidental findings in this syndrome. His ECG reveals P-wave inversion in I and peculiar R-wave progression in V_1-V_6, findings compatible with dextrocardia. A pattern of right bundle branch block is also noted. The feature editor wishes again to thank Dr. Henry for his assistance with this month's ECG.



EDITORIAL

Some Gastroenterologic Problems — Polyps and Alcoholic Liver Disease

Alfred Kahn, Jr., M.D.

The field of gastroenterology has changed radically in the past few years. Although the field of research in gastroenterology could not fairly be described as stagnant in years passed, it was certainly very slow-moving for a long period of time during the early part of the century with a few exceptions — the expansion of gastroenterologic radiology and some masterful physiological research on digestion. There has been a marked resurgence of interest in gastroenterology in the past fifteen to twenty years coincidental with better tools for studying the gastro-intestinal tract. Certainly one of the highlights in this period has been the development of fiberoptic instruments for studying the upper and lower gastro-intestinal tract. The enthusiasm which has followed in the wake of better instrumentations has brought more people into the field of gastroenterology and a good deal more interest in research.

Colonic polyps have been a source of diagnostic and therapeutic difficulty prior to the advent of colonoscopy. Colonic polyps were hard to see—and when discovered, they were a dilemma therapeutically; the question always arose as to whether or not the presence of a known colonic polyp should result in the patient being submitted to a laparotomy.

In the September, 1981 issue of *Gastroenterology*, among the selected summaries is a review of T. R. Whitt and S. J. Winawer. They reviewed an article by C. R. Blundell and D. L. Earnest (published in Gastro-Intest. Endosc. 1980; 26: 54-5), concerning—"Cancer In A Colonic Polyp, Or Malignant Colonic Adenomas—Is Polypectomy Sufficient?" The thrust of Drs. Blundell and Earnest's article was that a malignant polyp was removed by a colonoscope; the poyp contained a well-differentiated adenocarcinoma in the head of the adenoma; the authors cite the fact that the clinician asked for additional studies of the polyp and there was found to be lymphatic invasion by the carcinoma and this led to a laparotomy and segmental resection of the colon. Blundell and Earnest are said to have recommended, based on their total experience, polypectomy only for cases in which the cancer was limited to the head of the adenoma, when a resection of a margin free of tumor was possible, when a well-differentiated cancer was found, and when there was an absence of lymphatic invasion. Whitt and Winawer, in turn, used the Blundell and Earnest article as a take-off point for a discussion on how to manage colonic polyps. They cite the fact that there is a feeling by some research teams that the epithelial coating of polyps is capable of slowly undergoing a malignant change — non-invasive at first and later invasive. They suggest that the transformation to malignancy now takes five to fifteen years and that larger polyps are more likely to transform into carcinoma than smaller ones. Furthermore, the histologic appearance of the tumor may be a strong clue as to the potential for malignant change; in order from minimal to high likelihood of potential change, they are: tubular, tubulovillous, and villous. They further state that the larger the number of polyps which are present, the more likely malignancy will be present. The more atypia there is present, the more likely malignancy is to occur. Since colonoscopy carries very small risks of mortality and morbidity compared to open surgery, it becomes highly desirable to know which cases are safe to remove by the colonoscope. Whitt and Winawer indicate that polyps over one and a half to two centimeters in diameter are likely to be problem cases if removed by colonoscope. They further feel that polyps on

a stalk are safer cases than sessile polyps; sessile polyps containing any cancer are probably an indication for a laparotomy, according to some authors. Obviously there is a spectrum of opinions concerning this problem. Whitt and Winawer are especially concerned about the extent of carcinomatosis invasion in an adenoma regardless of size, morphology, etc. If the carcinoma is confined to the mucosa, they state that polypectomy is enough. Carcinoma in situ is considered carcinoma which does not go through the muscularis mucosae; this type of carcinoma seems to lead a benign course and apparently is a safe case for colonoscopic polypectomy. It is obvious, as the authors point out, that carcinoma which involves the margin of the resection will need a laparotomy; between the carcinoma in situ and the later case is a "gray area" in which there would seemingly be a strong case for surgery; however, this has to be balanced against the mortality and morbidity of surgery as compared to a colonoscopic polypectomy. Ultimately, the decision as to whether or not to perform an open operation on a patient may be determined by the general health of the patient when the local findings are equivocal—a cardiac case, for example, might not stand open surgery well. This is a very important subject in the context of our widespread use of colonoscopy.

In the same issue of *Gastroenterology* (September, 1981) there is an excellent clinical conference entitled "Gastro-Intestinal and Hepatic Manifestations of Chronic Alcoholism", moderated by D. H. Van Thiel. The conference was introduced by Dr. Thiel who states that there are probably around ten million problem drinkers in the adult population of the United States. Moreover, it is also said that there are 3.3 million problem drinkers between fourteen and seventeen years of age. A rather unexpected figure among the causes of death in the United States is cirrhosis, standing number six on the common cause of death list. Dr. L. E. Porter discussed the effects of alcohol on the gastro-intestinal tract and she states that there is an association between chronic alcohol use and cancer of the mouth, tongue, and esophagus. Chronic esophagitis is often seen. Acute hemorrhagic gastritis is a fairly frequent complication of excessive alcohol consumption. She says that alcohol has the ability to break the gastric mucosal barrier which allows the hydrogen ions in the stomach to attack the stomach gastric mucosa and, secondly, alcohol increases the amount of hydrogen ion secreted by the stomach. Another action of alcohol in the stomach is a delay of emptying. In some individuals lesser amounts of alcohol may accelerate gastric emptying in the small bowel. Dr. Porter states that hemorrhagic areas occur after exposure to excessive alcohol. The brush border enzymes in the small bowel also decrease after alcohol exposure. Of considerable interest is the fact that alcohol is reported to speed up the motility in the small bowel and to affect the transport system—inhibiting the absorption of certain foods and vitamins; Folate deficiency is common in alcoholics. The absorption from some of the Vitamin B complex is adversely affected by alcohol. A definite answer on the effects of alcohol on iron and zinc absorption is not available.

Dr. R. R. Schade reviewed the effects of ascites in this same clinical conference. He reports that about eight percent of the patients with ascites get spontaneous bacterial peritonitis; paracentesis is a necessary diagnostic tool if infection of the peritoneal fluid is suspected.

The effect of alcohol upon the pancreas was presented by Dr. Gary Gottlieb. Alcoholic pancreatitis is a distinct disease entity. The manner in the alcohol producing pancreatic disease is not clear. Alcohol may change the quantity and quality of the bile in some manner which irritates the pancreas, and in some laboratory animals it has been shown that duodenal contents reflux into the pancreas. Gottlieb states that the medical literature indicates that symptoms of acute pancreatitis due to alcohol only occur after there has been chronic pancreatic injury. He further states that chronic pancreatitis is known to cause a change in the out-pouring of enzymes by the pancreas to certain stimulating substances such as Oleic Acid. Long-standing use of alcohol is also said to cause an out-pouring of pancreatic enzymes in contrast to an inhibition which occurs in alcoholics when exposed to alcohol. One theory Gottlieb mentions is that acetaldehyde formed from ethanol is present in pancreatic secretions. If animals are fed alcohol, the acetaldehyde, in turn, could react with substances in the pancreatic secretion which might lead to plugging of the pancreatic ducts. Lastly, there is some evidence in the literature that the chronic ingestion of alcohol may lead to carcinoma of the pancreas, but this is not proved.

Dr. Toby O. Graham has discussed the effect of alcohol on the liver. As he points out, there are three main types of alcoholic liver disease: alcoholic fatty liver, alcoholic hepatitis, and alcoholic cirrhosis. Evidence of which he presents indicates that alcoholic fatty liver is a reversible lesion and does not lead to cirrhosis; the liver tests may be normal or slightly elevated. Severe cases of alcoholic liver disease may be associated with loss of appetite, right upper abdominal pain, fever, and some manifestations of obstructive jaundice. Alcoholic hepatitis is a different disease and Graham states that the following clinical criteria should be met, including jaundice, abdominal distress, fever, high white count, and manifestations of symptoms of portal hypertension; he states that a milder form of these symptoms may be absent. Of interest is the fact that the SGOT level is usually elevated, but the SGPT level may not be elevated —or if it is, to a lesser degree than the SGOT. It is pointed out in the article that the severity of the histologic lesion does not relate well to the degree of alcohol which the patient consumes. Liver biopsy is recommended in order to make a definite diagnosis. In the histologic sections, damage is found due to liver cells centrilobular level. Later there is liver cell necrosis and fibrosis. In severe cases, there may be so-called bridging of fibrosis. Characteristically, the liver cells in alcoholic hepatitis swell, possibly due to the accumulation of fats and protein-like substances. A good deal of investigation has gone into the question of whether or not hepatitis is initiated and perpetuated by some type of autoimmune mechanism; lymphocytes are present in the liver in increased amounts in alcoholic hepatitis; it is postulated that the Mallory bodies might act as an antigen. Alcoholic hepatitis may lead to cirrhosis, but cirrhosis may not go through a hepatitis stage, according to Graham. A patient with alcoholic hepatitis may recover and show no evidence of cirrhosis. According to the author, there does seem to be a predominance of females with alcoholic hepatitis. Graham has an excellent discussion of the chemistry of alcoholic liver disease in his presentation. He points out that alcohol causes the formation of acetaldehyde, and acetaldehyde has many adverse effects in cells. Alcoholics can induce the enzymes which are responsible for the metabolism of alcohol. They are principally hepatic ADH and microsomal ethanol oxydizing system. Starvation and protein deficiency reduce the body's ability to metabolize alcohol. Alcohol inhibits growth of glucose and can lead to hypoglycemia. Excessive alcohol also is said to alter aminoacid metabolism in the liver. It also inhibits the synthesis of some proteins, including albumin. Alcohol is also known to stimulate the formation of lypoproteins; it also decreases the metabolism of fatty acids. Many hormones are not properly metabolized in the presence of liver disease and they include cortisone, testosterone, etc.

D. H. Van Thiel has reviewed the gonadal effects of alcoholism and points out that hypoandrogenization is seen in chronic alcoholic men. There is also an increase in the amount of estrogen in men suffering from liver disease. The causes of these changes are not fully understood.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Dewell Gann, Jr., M.D.

Max L. Baker, Ph.D.*

"Prominence comes through the development of capability—the power of doing a little better than others in a certain line of work. It is this prominence that places Dr. Dewell Gann, Jr., among the most eminent representatives of the medical profession in Arkansas and his capability has resulted from thorough study, keen discrimination and unfaltering devotion to professional duty." With these glowing words, the *Centennial History of Arkansas* began the biography of Dewell Gann, Jr., of Benton.

By virtue of his accomplishments, Dr. Gann occupies a unique position in Arkansas medical history. The son of a longtime Benton practitioner, Dewell Gann, Jr., gained national and international fame for his work and inventions, all the while maintaining his medical practice in the Benton-Little Rock area.

Dewell Gann, Jr. was born in Benton, Arkansas, on September 14, 1890, and was the only son of Dr. Dewell and Martha Harding (Whitthorne) Gann. Dewell Gann, Sr., was a native of Atlanta, Georgia, and a graduate of Southern Medical College at Atlanta. He practiced medicine for many years in the Benton area.

Dewell Gann, Jr., received his Bachelor of Arts degree and Master of Arts degree from Indiana University in 1911 and 1914, respectively. In 1913, he received the M.D. degree from the same school. Dr. Gann returned to Arkansas and set up his practice in Little Rock in 1915 where he specialized in surgery. Dr. Gann later received the Master of Science and Doctor of Sciences degrees from Little Rock College.

Dr. Gann practiced surgery in Little Rock for many years and was a Fellow of the American College of Surgeons. He served as chief of staff at St. Vincent's Infirmary and held staff appointments at the other local hospitals. He was a member of the faculty in surgery at the University of Arkansas College of Medicine. He also held a clinical professorship in Obstetrics and Gynecology. In this context, Dr. Gann introduced the therapeutic use of radium to the state in 1916 when he began to use it in the treatment of



gynecologic malignancy.

During his time as attending surgeon at Little Rock General Hospital from 1919 to 1924, Dr. Gann invented a new type of resuscitator. The Gann resuscitator was used in the treatment of asphyxia and drowning through World War Two. Because of this work, Dr. Gann was chosen a Fellow of the Royal College of Surgeons at Edinburgh, Scotland, in 1925, at that time one of only 10 men in the United States so honored. He also became a Fellow of the International College of Surgeons at Geneva, Switzerland, and received their certificate of merit for his resuscitator.

Dr. Gann's research and scientific interests also resulted in his being one of the founders of the Arkansas Academy of Science.

Dewell Gann, Jr., died on January 9, 1960.

The Gann name, however, remains in Arkansas historical circles, with the placing, in recent years of both the Gann home, and office building in Benton on the National Register of Historic Places.

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MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

PRO Bids Rejected For Many States

Operation of a new Medicare review system has suffered yet another delay in 15 states where all the bids for the peer review organization (PRO) contracts have been rejected as "technically unacceptable."

The rejected states have about 40% of all Medicare hospitalizations. New bidders there, along with the 18 rejected organizations, now have until July 5 to submit proposals. The rejected organizations met with Health Care Financing Administration officials May 30 and 31 to learn the specific deficiencies in their bids.

In two states—California and Michigan—multiple bids were submitted and rejected, according to HCFA spokesmen. In the other 13 states, only one bid was submitted. They are: Alaska, Connecticut, Hawaii, Idaho, Illinois, Maine, Ohio, Oklahoma, Pennsylvania, Texas, Vermont, Virginia and Washington.

Bidding for 47 PRO areas closed April 27 and HCFA officials say they did receive at least one bid from each of these areas. Bid requests were issued later and remain open until June 12 for three territories and for four states (Massachusetts, Maryland, New Jersey and New York) with Medicare waivers. With the bid rejections in 15 areas, the bidding is now completed in 32 states and open in 19 states and the territories.

In issuing the notice of reopened bids, HCFA noted that if it finds "no proposal acceptable" in the 15 areas, it will be "required to award a contract to a payer organization for that area." Officials in charge of implementing PROs say if it becomes necessary to use fiscal intermediaries for review, the bids will not be reopened. Rather the new duties will simply be added to existing intermediary contracts.

These officials added, however, that they "still feel very strongly that PROs should be run by physician-sponsored organizations" and are "giving the physician community every opportunity to participate."

Observers say, however, that the HCFA staff had hoped for greater competition for the PRO contracts and now wants to encourage competition from stronger out-of-state bidders for contracts in the 15 states.

Inadequacies in the 18 rejected bids reportedly fell into three categories: the contractual arrangements with subcontractors were either inadequate or involved too many subcontractors; the data base used by the bidder was seen as inappropriate; or the objective setting was ruled deficient.

Following the HCFA debriefing, AMPRA will sponsor a meeting at which the South Carolina and Wisconsin PSROs, which reportedly submitted the strongest PRO bids, will discuss their techniques. The AMA has also offered its assistance to the organizations that are resubmitting proposals. Most of the organizations say they will definitely bid again though some are not certain.

* * * *

Redefining Physician For The Government

An AMA-backed bill regarding the definition of physician under Medicare law has been introduced by Mississippi Democrat Wayne Dowdy.

The definition, used to delineate the types of practitioners and services Medicare pays for, has been applied in other contexts as well—including Medicare's proposed conditions of participation for hospitals.

Through the years, as Congress expanded Medicare benefits by broadening the physician definition, the definition has grown to include dentists, podiatrists, chiropractors, and optometrists, in addition to doctors of medicine and osteopathy. Under Rep. Dowdy's bill, only doctors of medicine and osteopathy would be defined as physicians. Medicare coverage for the services of the other practitioners would be unchanged, but these practitioners would be defined separately. Dentists would be defined as dentists; podiatrists, chiropractors and optometrists as "independently licensed health care practitioners."

* * * *

Shorter Stays Under DRGs?

Medicare's new diagnosis related groups (DRGs) payments are having the desired effect of

reducing hospital lengths of stay without the unwanted side effect of increasing admissions, federal officials are reporting.

Data on the impact of the DRG program to date were presented to the Healthcare Financial Management Association May 5 by James Scott, Acting Deputy Administrator of the Health Care Financing Administration.

As of March 31, 43% of all hospitals were under DRGs for Medicare patients. The most prevalent DRG was 127 for heart failure and shock; the second most prevalent was DRG 39 for lens procedures.

Between October 1, 1983, (when DRGs were implemented in the first hospitals) and March 31, 1984, the average length of stay for Medicare patients billed under DRGs was 7.2 days. This compared with 9.1 days for non-DRG bills and 9.4 days in the same period a year earlier, Scott said.

The 7.2 day average may rise somewhat, however, because bills for complicated, long stays may only now be filtering in for payment and because many of the hospitals first affected by DRGs were in the south, where length of stay tends to be shorter than in the northeast.

In the first five months of fiscal 1984, an estimated 4.826 million Medicare patients were admitted to hospitals as compared to 4.792 million in the same period in 1983, Scott advised. When adjusted for leap year, this is a 0% increase in a year when admissions were projected to increase by 3.4%, he added, "so it is safe to conclude" that hospitals are not "jerking every third senior citizen they see on a street corner off to the hospital to maximize DRG payments."

* * * *

Stopping The 'Hoppers'

Physicians and other practitioners who lose their license in one state should not be permitted to hop from state to state, continuing to treat patients and collecting from Medicare and Medicaid in the process: That was the general agreement among physicians, federal officials and congressmen reacting to a General Accounting Office study that recommends tightening Medicare and Medicaid laws to permit the exclusion from the two programs of any practitioner whose license has been removed by a state licensing board.

GAO reviewed the proposal at a May hearing of the Senate Special Committee on Aging where all witnesses—including the Inspector General of the Department of Health and Human Services and a representative of the American Medical Association—supported the proposal's concept.

HHS Inspector General Richard Kusserow said his office is drawing up legislation to expand HHS' authority against sanctioned providers. AMA Board of Trustees Member John J. Ring, M.D., reported the AMA is expanding its dissemination to medical licensure boards of license revocation notices received for the AMA Physician Masterfile.

Others suggested remedies such as requiring states to report disciplinary actions to a national clearinghouse or denying controlled substances permits to physicians who are disciplined by licensure boards or who leave a jurisdiction while an investigation is pending.

The GAO based its recommendation on a study that traced health practitioners whose licenses were revoked in Michigan, Pennsylvania or Ohio between 1977 and 1982. Of the 328 sanctioned practitioners, (which included osteopaths, pharmacists, podiatrists, chiropractors, and dentists in addition to 144 physicians), 58% had lost their license due to quality of care problems such as malpractice, alcohol and drug abuse or immoral conduct. Twenty-three percent involved drug law violations.

A little more than a third of the practitioners held a license in at least one other state and 39 of these (including 24 physicians) enrolled in Medicare and Medicaid in another state.

* * * *

OMB Vs. HCFA: Battle Lines Drawn

A long-brewing battle between the Health Care Financing Administration and the Office of Management and Budget has prompted HCFA head Carolyne Davis to charge that OMB is "usurping" her agency's authority over Medicare waivers and demonstrations.

The waivers and demonstrations permit Medicare to participate in state hospital rate-setting programs and other payment experiments. Medicare law gives authority to grant waivers to the Department of Health and Human Services where it is Davis' agency which makes the initial decision to award or deny a waiver.

For the past two years, however, OMB has used various tactics—including denial of the necessary forms for evaluating demonstrations—to hold up demonstrations. Since January, the Budget Office

has required HCFA to submit for its approval any waiver applications involving more than $1 million a year.

HCFA protests resulted in an interim agreement in which OMB has 30 days to reach a decision on Medicaid research waivers, 10 days for policy waivers such as home and community based services and 90 days for program waivers. Davis regards the OMB role as "fundamentally inappropriate," however, and in a memo to OMB early in May she accused the Budget Office of "usurption of HCFA's role."

The most obvious casualty to date has been a HCFA-approved experiment with social HMOs that OMB has held up with various demands for analysis. Still to come is the major battle involving waivers from Medicare's new prospective pricing system for state rate-setting programs. The PPS law requires HHS to exempt from the federal plan state programs that meet certain criteria, including the expectation that they will not cost more than the federal system.

Regulations to implement the PPS waivers have not yet been issued, however, despite repeated Congressional inquiries. Critics charge that the waiver authority is being held hostage in the battle between HCFA and OMB, and they claim that the Administration wants to deny PPS waivers to any states other than the four that already have them.

* * * *

Medicare Budget Bills Ready For Conference

Senate approval of a deficit reduction bill and a fiscal 1985 budget resolution in May have cleared the way for a House-Senate conference and final action on the measures.

Among the provisions to be taken up in conference is a Senate-endorsed physician fee freeze. The proposal would freeze Medicare's customary and prevailing fee limits for all physicians for one year. Prevailing fee limits would remain frozen for a second year for those physicians who don't agree to take all claims on assignment.

The final Senate measure claims Medicare savings of $8.2 billion over the next four years. In addition to the fee freeze, calculated to save $1.5 billion over four years, the measure would increase Part B premiums to save around $2 billion and curtail Medicare hospital payments to save $1 billion.

In the House bill, Medicare savings would be $833 million over the next three years. The House rejected a freeze and mandatory assignment on physician services to hospital inpatients. The House measure also does not include the continued freeze on prevailing fees for physicians who don't take assignments, reduced payments to hospital or increased beneficiary cost-sharing.

Both the House and Senate measures set up fee schedules for payments to clinical labs and call for a study of pacemaker reimbursement. The House plan would move up to July 1985 the date by which the Department of Health and Human Services must report on the "advisability and feasibility" of a diagnosis related group payment system for physicians.

* * * *

Medicare Goes HMO

Nearly two years after enactment of a law setting up a prospective payment option for Medicare HMO enrollees, the regulations to implement the law have been released by the Department of Health and Human Services. The new plan will cost the federal government nearly $100 million in its early years but long-range savings are expected.

The proposed regulations, which reportedly were delayed due to Office of Management and Budget cost concerns, were outlined at an HHS press conference May 22 and will be issued in final form this fall.

Under the proposal, HMOs, preferred provider organizations (PPOs) and other alternative delivery arrangements would have the option to continue under the cost-based arrangements most HMOs now have with Medicare; or they could move to a prospectively-determined, capitated payment.

Under prospective payment, Medicare would pay the HMO up to 95% of the adjusted average per capita cost for Medicare beneficiaries in the fee-for-service system. The new plans are expected to reduce or eliminate Medicare's current cost-sharing. Beneficiaries would continue to pay Medicare's monthly Part B premium, now at $14.60 a month, however, and could be charged a new monthly HMO premium as well. That premium is expected to vary from about $20 to $50 a month.

About 775,000 or 2.5% of all Medicare beneficiaries are now enrolled in HMOs. Most of these are in 21 demonstration plans where reimbursement is similar to that in the new regulations.

HHS Secretary Margaret Heckler predicted

that another 600,000 Medicare beneficiaries would enroll in HMOs within the next three or four years. She said the new payment arrangement will "mean more complete medical coverage with lower out-of-pocket costs" for beneficiaries and "long-term savings for the Medicare program" as well. She acknowledged, however, that the plan is expected to cost Medicare about $30 million in its first year of operation and $65 million in the second. Indeterminate savings are anticipated in the third year of the plan.

* * * *

Senate Gets Malpractice Bill

A medical malpractice bill introduced earlier this spring by Reps. Richard Gephardt (D-MO) and Henson Moore (R-LA) now has a Senate sponsor.

Minnesota Republican David Durenberger introduced the measure in the Senate on May 17. Called the Alternative Medical Liability Act of 1984, the bill would apply the no-fault concept to medical liability. It would apply only to patients whose care was paid for by the federal government though states would be encouraged to expand it to other citizens.

In introductory remarks, Durenberger said that while he does "not agree with all the provisions" in the bill, he does see it as "an important focus for national discussion" of the malpractice issue.

* * * *

Candidates' Outlook On Medicare

The major health policy difference between the two front-running Democratic Presidential contenders lies in their attitude toward preventive care, the candidates' health policy advisers agree.

Colorado Senator Gary Hart's policy would rely much more heavily on enhanced prevention measures to control health costs than would former Vice President Walter Mondale.

Both men, however, support a nationally-mandated, state-run health care cost containment program that would control hospital and physician charges for all hospital inpatients. Though details of the proposals may vary, both proposals are admittedly similar to legislation introduced by Sen. Edward Kennedy (D-MA) and Rep. Richard Gephardt (D-MO).

The candidates' views were outlined at a May meeting of the Healthcare Financing Management Association. Yale Professor Theodore Marmor, Ph.D., discussed Mondale's views. Hart's positions were detailed by Andrew Dunham, Ph.D., White House adviser Jack Svahn, who had been scheduled to present President Reagan's views, withdrew from the program.

* * * *

Government Loses Baby Doe

The government's controversial Baby Doe regulations, challenged by the AMA, have once again been struck down by the courts.

In his May 23 order, Judge Charles L. Brieant of the U. S. District Court for the Southern District of New York called the regulations "invalid, unlawful, and without statutory authority."

He based his ruling on a May 2 decision against the government in the case *United States* v. *University Hospital* (Baby Jane Doe), which limited the statutory authority of Section 504 of the Rehabilitation Act. Section 504 — the government's anti-discrimination law — was the legal backbone of the Baby Doe regulations.

The government had contended that Section 504 applied whenever an infant's handicap could influence medical decision-making. However, the court's earlier ruling stressed that Section 504 was designed to apply to issues of education, employment, and transportation.

"The AMA is elated with the ruling invalidating the final Baby Doe regulations. This ruling affirms that the federal government does not belong in cases involving the medical treatment of several handicapped newborns," according to a joint statement issued by Frank J. Jirka, Jr., M.D., President of the AMA, and John J. Coury, Jr., M.D., Chairman of the AMA Board of Trustees.

The AMA—joined in its suit by the American Hospital Association, the American College of Obstetricians and Gynecologists, the American Academy of Family Physicians, the Hospital Association of New York State, and the Association of American Medical Colleges—argued that the regulation exceeded the authority of Section 504.

* * * *

Surgeon General's Report On Smoking

Physicians can play an important role in reducing chronic lung disease which claims 50,000 lives each year from cigarette smoking, stresses the 1984 Surgeon General's Report on Smoking released in May.

Cigarette smoking causes 80-90% of all cases of chronic obstructive lung disease. In many studies, heavy smokers experienced 30 times the chronic lung disease mortality rate of non-smokers, said

Surgeon General C. Everett Koop, M.D., in a Washington press conference.

For the first time, the report describes the actual mechanism of disease: the inflammatory response to smoke produces high levels of elastase, an enzyme that degrades lung tissue; at the same time, smoke inactivates alphal-antiprotease, the protein that blocks elastase activity. Excess elastase can lead to diseases such as emphysema, according to the report.

It also underlines the need for physicians to promote quitting. "I am happy to report that we physicians have for the most part abandoned cigarette smoking; only 10% of us still smoke, compared to more than half of all physicians and surgeons just a few years ago," said Dr. Koop.

Just days prior to the report, Dr. Koop called for a smoke free society by year 2000, echoing AMA's 1983 policy statement.

* * * *

New Cigarette Labels

After months of negotiating between health and tobacco groups, Congress is on the verge of approving explicit warning label legislation that stresses the specific risks of cigarette smoking.

If approved in June as expected, cigarette packages would contain a different warning every three months:

—"Smoking causes lung cancer, heart disease, emphysema, and may complicate pregnancy",

—"Smoking by pregnant women may result in fetal injury, premature birth, and low birth weight infants", and

—"Cigarette smoke contains carbon monoxide".

The new labels would be printed in a heavily bordered rectangle 50% larger than the current label. Similar warnings would be used in cigarette advertisements on billboards.

* * * *

'Deadly Dozen' Targeted In Congressional Races

An anti-abortion political action campaign announced in May its "hit list" of the twelve members of Congress it plans to attack in November's election.

The Congressional "Deadly Dozen" were chosen for their positions on abortion funding, fetal research, the confirmation of Surgeon General C. Everett Koop, Planned Parenthood, and the Equal Rights Amendment.

The votes of the targeted members have "helped to kill more than 17 million innocent pre-born children," said Rick Woodrow, Executive Director of the Life Amendment Political Action Committee (LAPAC).

The list includes Sens. Carl Levin (D-MI), Max Baucus (D-MT), Joseph Biden (D-DE), and Reps. Ike Andrews (D-NC), Peter Kostmayer (D-PA), Bob Carr (D-MI), Jerry Patterson (D-CA), Ronald Dellums (D-CA), Sherwood Boehlert (R-NY), Bob Edgar (D-PA), Clarence Long (D-MD), and Jim Jones (D-OK).

LAPAC plans to spend roughly $50,000 to unseat each candidate, advertising his pro-abortion voting record on television, radio and in newspapers.

* * * *

House Committee Approves New Organ Bill

On May 1, the House Energy and Commerce Committee passed a bill which would authorize $40 million over four years for grants to agencies that arrange for organ donations, and $30 million over two years to provide drugs needed by organ recipients. It also sets up a national transplantation network for matching organs to needy patients.

The House bill, HR-5580, does not include the controversial provisions listed in an earlier version, HR-4080, which permitted Medicare to limit coverage for all procedures—not just transplants—to selected patients, practitioners, and institutions.

* * * *

FDA Commissioner Selected

Frank E. Young, M.D., Dean and Vice President of Health Affairs at the University of Rochester School of Medicine & Dentistry, has been selected as the new Commissioner of the Food and Drug Administration.

A microbiologist, Dr. Young has devoted several years to the study of genetic cloning and mapping of bacteria. Most recently, he published papers on the cloning of a *Streptomyces* neomycin-resistant gene into *E. coli,* cloning of a gonorrhea plasmid into *E. coli,* and cloning of an *E. coli* gene into *Bacillus subtilis.*

Dr. Young will begin his appointment sometime after July. He is a member of the American Medical Association, the American Association of Medical Colleges, the American Association of Pathologists, and the American Society of Microbiologists.

* * * *

Rx-To-Consumer Advertising Study Done

The Food and Drug Administration in May completed a study that measured recall, knowl-

edge, and attitudes of roughly 1,500 consumers about prescription drugs. The agency is now preparing a regulation that could permit limited prescription drug advertising by drug companies aimed directly at consumers.

* * * *

Video Terminals No Hazard, Physicians Tell Congress

Video display terminals (VDTs) pose no serious hazard to vision or pregnancy, physicians told members of a subcommittee of the House Education and Labor Committee during investigative hearings in May.

Since the early 1970s, when the use of VDTs became widespread, there have been reports of health effects produced by radiation emission. The most serious complaints focused on cataracts, miscarriages and birth defects.

The level of radiation emitted from VDTs is insufficient to cause spontaneous abortions or birth defects, said Marcus B. Bond, M.D., of the American College of Obstetricians and Gynecologists (ACOG).

Both groups ACOG and the American Academy of Ophthalmology agreed that fatigue and physical discomfort may result from VDT use. Improper illumination, glare, a poorly designed workstation, and other stress factors should be changed to improve the working environment, they said.

* * * *

Vaccine Compensation Bill Heard

When an individual is vaccinated, society is protected from disease. It is only fair for society to protect the individual from the risks of vaccination, say supporters of the newly proposed National Childhood Vaccine-Injury Compensation Act.

"Large scale participation in the immunization program is essential for its success. Thus, there should be a public commitment to assure some form of compensation to those unavoidably injured," said sponsor Sen. Paula Hawkins (R-FL) in May hearings on the new bill before the Senate Committee on Labor and Human Resources.

The bill should ease the concerns of both parents and vaccine manufacturers, said Sen. Hawkins. By promising reimbursement for the medical expenses that result from adverse reactions, it may restore public confidence in the nation's vaccination program. By assuming liability for these adverse effects, it may encourage drug companies to stay in the vaccine business.

If the bill is passed, physicians can expect:

—mandatory recording requirements for each vaccine's lot and number, plus the physician's name and address.

—mandatory reporting requirements of every serious reaction occurring within 30 days after vaccination.

—new regulations describing "high risk" groups and instances when vaccination should be delayed or avoided altogether.

All childhood vaccines mandated by state laws would be covered: diphtheria, tetanus, pertussis, measles, mumps, rubella and polio.

Although the AMA supports the concept, it has several major criticisms: the court system route should be closed altogether, not left as an alternative route; specific vaccine injuries should not be listed in legislation, because there are too many variables; general revenue funding, not surcharges, should finance the program; and the list of high-risk groups and specific adverse effects should be eliminated, because it interferes with professional judgment, according to Alan Nelson, M.D., a Member of the AMA Board of Trustees who testified during the hearing.

* * * *

Animal Research Once Again Under Fire

Yielding to public opposition, researchers are turning away from large-scale unnecessary use of laboratory animals, according to participants in a May symposium sponsored by the National Coalition for Science and Technology.

"There has been a silent psychological change among toxicologists, lab managers, and members of the public. There is increasing sensitivity to animals as living beings," said Lawrence E. Cunnick, President of the consulting firm Biocon, Inc.

"We all have a stake in eliminating unnecessary animal testing and accelerating good research, said Donald Stein, Ph.D., of Clark University and Chairman of the Coalition. "For anyone engaged in biomedical research, the value of their work depends on maintaining the health and welfare of their animals to the highest degree possible."

Animals may always be essential to our understanding of surgical techniques, immune responses, and any basic biological function. Tissue pathology is, in many cases, an important experimental endpoint.

Their emotional appeal creates problems for researchers, however. Public uproar over animal

care has resulted in a flurry of new rules.

The pressure toward decreasing animal use is apparent in every corner:

Private Industry. Increasing numbers of industries are upgrading their toxicology methods. Proctor & Gamble Co. has developed an alternative to the Draize eye irritation test and now uses the Ames bacterial assay instead of live animals in first level mutagenicity screenings. Smith Kline & French is offering Animals Welfare Achievement Awards to encourage conservation of animals and new in-vitro techniques. Revlon reports a 20% reduction in the number of animals used; Avon, a 33% reduction; and Colgate Palmolive, a 50% reduction.

Academic institutions. Increasingly, toxicologists are experimenting with bacteria, yeast, fruit flies, cell cultures, and even computers to test chemicals. The University of Texas Medical Branch's Integrated Functional Lab uses an Apple II Plus Computer to simulate the physiological functions of animals, thus reducing the number of animals needed for lab instruction. At Rockefeller University, Dennis Stark, D.V.M., Ph.D., has reproduced the chemical hallmarks of irritancy—traditionally obtained by gross visualization using the Draize test—in chemical-sensitive cell cultures.

Congress. At least four bills focus attention on the use and care of lab animals in research: S-657, introduced by Sen. Robert J. Dole (R-KS); S-773, containing a provision inserted by Sens. Orrin Hatch (R-UT) and Edward Kennedy (D-MA); HR-2350, introduced by Reps. Doug Walgren (D-PA) and Edward R. Madigan (R-IL) and passed by the House last November; and HR-5098, newly introduced by Rep. Robert Torricelli (D-NJ).

State Legislators. This year alone, there have been an estimated 120 state bills introduced involving animals; of these, at least 20 directly relate to lab animals.

Federal agencies. The National Institutes of Health recently unveiled proposed changes in government policy on animals experimentation. The new rules, if enacted, would require institutions to provide more specific information on animal research programs. Animal research committees would review and approve the care and use of all animals in grant applications and proposals. The regulation, proposed April 5, is now open for public comment.

* * * *

New Drug Approvals

The Food and Drug Administration (FDA) approved a new antibiotic, cefonicid (Smith Kline & French Laboratories). Because it acts for up to five hours in the patient instead of minutes as do current antibiotics, a single daily injection works as well as four daily injections of current agents. If cefonicid catches on, and it will be widely advertised, it will cut the costs of administering antibiotics in hospitals and make more patients eligible for treatment as outpatients. This will have a major impact on health care costs—one study estimates that as much as $277 million could be cut from the nation's hospital bill if the drug is used sufficiently widely.

Cefonicid is only the first of what are likely to be a series of such long-acting antibiotics. Hoffman-La-Roche has applied to the FDA for approval for another, similar agent with an even longer action and a slightly different spectrum of antibacterial activity.

FDA is getting ready to approve the use of a kidney stone drug which will help prevent the formation of some types of kidney stones and thus avoid the need of surgery. The drug is potassium citrate (Urocit, Mission Pharmacal). It is one of the so-called orphan drugs although the studies leading to the pending approval were supported by NIH rather than by FDA.

* * * *

Ibuprofen Goes Over-The-Counter

The popular painkiller ibuprofen—marketed under the brand names Motrin and Rufen—will soon be available as an over-the-counter drug. The Food and Drug Administration approved non-prescription marketing of the drug on May 18.

The drug will be labeled for temporary relief of aches, pain from menstrual cramps, and fever reduction. Manufacturers say the drug causes less stomach irritation and less risk of overdose than aspirin.

One product, produced by Upjohn Co. and distributed by Bristol-Myers, will be called Nuprin. A second product, marketed by Whitehall Laboratories, will be sold as Advil. Both companies said distribution and advertising of the painkiller will begin as soon as possible.

FALL SEMINAR SCHEDULE

The Arkansas Medical Society, in cooperation with the American Medical Association, will sponsor several seminars in Fayetteville and Little Rock in September and November.

A seminar designed for the office personnel of physicians is scheduled as follows:

"Telephone and Collection Management"
Fayetteville, Fayetteville Hilton,
Wednesday, September 12, 1984
Little Rock, Holiday Inn — Airport,
Thursday, September 13, 1984

Other seminars to be presented are intended for physicians:

"Managing Money and People in Your Practice"
Fayetteville, Fayetteville Hilton,
Tuesday, September 11, 1984
"Gearing Up for Retirement"
Little Rock, Holiday Inn — Airport,
Saturday, September 15, 1984
"Computers in Private Practice"
Fayetteville, Fayetteville Hilton,
Wednesday, October 31, 1984
Little Rock, Holiday Inn — Airport,
Thursday, November 1, 1984
"Marketing Strategies for Private Practice"
Little Rock, Holiday Inn — Airport,
Friday, November 2, 1984

Further information on the seminars will be mailed to members of the Arkansas Medical Society.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

BILIARY TRACT SEPSIS

Presented by John T. Sinnott, IV, M.D., University of South Florida Medical Clinics, *August 28, 7:00 p.m. to 8:00 p.m.*, L J's Restaurant, Fayetteville. Sponsored by UAMS AHEC-NW. One hour Category I credit.

COST MANAGEMENT IN DRUG THERAPY

Presented by Jack McCue, M.D., *September 13, 7:00 p.m. to 8:00 p.m.*, L J's Restaurant, Fayetteville. One hour Category I credit.

WHAT IS NEW IN ORTHOPEDICS

Presented by Carl Nelson, M.D., Department of Orthopaedic Surgery, UAMS, *September 18, 7:00 p.m.*, Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. Sponsored by Baxter County Regional Hospital.

MANAGEMENT OF CANCER IN THE ELDERLY

Presented by David A. Lipschitz, M.D., *September 19, 8:00 a.m. to 5:00 p.m.*, Excelsior Hotel, Little Rock. Sponsored by UAMS. Seven hours Category I credit. Registration fee: $30.

FIRST ANNUAL PRIMARY CARE UPDATE 1984

This seminar will be presented *September 20 and 21* in the Hilton Inn, Little Rock, and is accredited for 18 hours Category I credit. The registration fee is $100.00 for both days, single-day fee is $60.00 for physicians; $25.00 fee for nurses (single or both days.) Sponsored by Baptist Medical Center.

HEART ASSOCIATION — SCIENTIFIC SESSION ON HYPERTENSION

Presented by J. B. Norton, M.D., *September 21, 7:30 a.m. to 3:00 p.m.*, Excelsior Hotel, Little Rock. Sponsored by UAMS. Four hours Category I credit. Registration fee $20.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

RHEUMATOLOGY/1984

Presented by Peter Singleton, M.D., Internal Medicine Department, Letterman Army Medical Center, San Francisco, *October 16, 7:00 p.m.*, Education Building, Baxter County Regional Hospital. Two hours Category I credit. Sponsored by Baxter County Regional Hospital.

PSYCHIATRIC SYMPOSIUM AND MID-CONTINENT MEETING

Presented by G. Richard Smith, M.D., *October 20 and October 21* (cocktail party Friday evening, October 19, 6:30-9:30 p.m.), Arlington Hotel, Hot Springs. Sponsored by UAMS. (Time, fee, and credit hours to be announced.)

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.
Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Thursday, 12:15 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
Peer Exchange, September: "Rheumatology" (for further information contact VAMC).

JONESBORO — AHEC-NORTHEAST

Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Monthly Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Weekly Medical Lecture Series, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Child Neurology Conference, first Monday, 8:00 a.m., Second Floor Classroom.
Pediatric Radiology/Genetics Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Primary Care Seminar and Case Presentation, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Surgery Conference, each Thursday, 7:30 a.m. to 8:30 a.m., Conference Room #1.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.
Cardiopulmonary Resuscitation Course, fourth Thursday, 6:00 p.m. to midnight, Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E-159, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E-159, Education Wing.
Gynecology Conference, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Dining Room.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.

Neuropathology Conference, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S1169, Laboratory.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.

PINE BLUFF-AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.



PERSONAL AND NEWS ITEMS

DR. DYKMAN IN FAYETTEVILLE

Dr. Thomas R. Dykman has joined the Fayetteville Diagnostic Clinic for the practice of Internal Medicine and Rheumatology.

DR. PLANT LOCATES

Dr. Richard F. Plant has joined Dr. Lance Whaley in Helena for the practice of Obstetrics and Gynecology.

DR. COLE CHAIRMAN

Dr. George R. Cole, Jr., of Fayetteville has been elected chairman of the State Game and Fish Commission.

DR. SHANLEVER HONORED

Dr. William T. Shanlever of Jonesboro has been named 1983-84 "Boss of the Year" by the Craighead County Medical Assistants Society.

MEDICAL FORUMS

Doctors Ed Barron, Richard Calhoun, Charles Barg, Kingsley Cosgrove and Lawson Glover of Little Rock were members of a panel for a public medical forum on diabetes sponsored by the Baptist Medical Center.

DR. WILKINS SPEAKS

Dr. Charles F. Wilkins of Russellville, president of the Arkansas Medical Society, was guest speaker for the third annual meeting of the Arkansas Association of Home Health Agencies. Dr. Wilkins spoke on "Integrity in Home Health Care."

DR. WRIGHT IN FAYETTEVILLE

Dr. Walter L. Wright has joined Dr. E. Mitchell Singleton for the practice of Ophthalmology at 2039 Green Acres Road in Fayetteville.

DR. HEDER IN PORTLAND

Dr. Guy W. Heder, a Family Physician, has begun practice in Portland.

DR. McDANIEL IN JONESBORO

Dr. Craig McDaniel has joined Dr. Durwood Wisdom at 404 Creath in Jonesboro for Family Practice.

DR. ARMSTRONG LOCATES

Dr. Simmie Armstrong, Jr., has opened an office at 1716 Doctor's Drive in Pine Bluff; he specializes in Family Practice.

MEDICAL SCHOLARSHIPS

The Washington County Medical Society has awarded $500 scholarships to two area students who will enter the University of Arkansas College of Medicine this fall. Dr. Earl Riddick, county president, and Dr. Jim Sharp, county secretary-treasurer, made the presentations.

DR. COLLINS

Dr. Linda F. Collins, a Family Physician, has opened an office in the Cotton Plant Medical Center.

DR. SMART IN EL DORADO

Dr. Greg S. Smart has opened an office in the Union Medical Annex at 704 West Grove in El Dorado. Dr. Smart is a Family Physician.

DR. McDONALD PROJECT CONTACT

Dr. James E. McDonald, II, a Fayetteville Ophthalmologist, conceived a medical training project and the Rotary Club of Fayetteville Downtown applied for a funding grant from Rotary International. Rotary International has provided $180,000 for the three-year training and development project in Amritsar, Punjab, India, which will provide an affordable means of restoring sight to millions of cataract victims in India and other developing nations. The Fayetteville Downtown Rotary Club will procure and ship the manufacturing equipment for the project and provide technical advice. Twelve volunteer Rotarian Ophthalmologists from developed nations will assist in the training project.

PHYSICIANS HONORED

Dr. Kelsy J. Caplinger and Dr. Roger B. Bost of Little Rock were honored during the 16th annual meeting of the Arkansas Caduceus Club. Dr. F. E. Joyce of Texarkana presented the Distinguished Alumnus Award to Dr. Caplinger and Dr. Lawson Glover of Little Rock presented the Distinguished Faculty Award to Dr. Bost.

Dr. Tom Bruce, Dean of the College, presented centennial medals to five members of the 1934 class attending the ceremonies.

Dr. Robert Bell of Russellville, Caduceus president, presided at the meeting.

DR. POWELL LOCATES

Dr. Brenda N. Powell has joined Dr. E. Michael Finan at 225 Linden in Hot Springs for the practice of Obstetrics and Gynecology.

DR. NASSRI IS FELLOW

Dr. Louay Nassri of Fort Smith is a new fellow of the American College of Chest Physicians.

DR. STANFORD IN FORT SMITH

Dr. Allan Stanford has joined Dr. Fred de Miranda at the Waldron Place Pediatric Clinic in Fort Smith.

DR. BUTLER SPEAKS

Dr. G. Harrison Butler of Fayetteville presented a program on the medical management of heart disease at a community health education program sponsored by the Washington Regional Medical Center.

DR. JONES LOCATES

Dr. Jeffery T. Jones has opened an office for the practice of Obstetrics and Gynecology at 110 East Madison in Berryville.

OBITUARY

DR. JOSEPH ELLIS

Dr. Joseph Ellis of Camden died July 5, 1984. He was born in Thornton on August 29th.

He received his pre-medical education at Henderson State Teachers College in Arkadelphia and was a 1955 graduate of the University of Arkansas College of Medicine. Dr. Ellis served an Anesthesiology residency at St. Vincent's in Little Rock.

Dr. Ellis was a member of the American Medical Association, the Southern Medical Association, the American Society of Physicians, and Alpha Omega Alpha.

Dr. Ellis had been on the staff of the Calhoun County Hospital and Dallas County Hospital.

He is survived by his wife, Jean Garrett Ellis, one son and three daughters.

DR. EWIN S. CHAPPELL

Dr. Chappell of Little Rock died July 5, 1984. He was born in Flatwoods, Tennessee, on October 19, 1911.

He attended the University of Arkansas at Fayetteville. Dr. Chappell is a 1938 graduate of the University of Arkansas College of Medicine. His internship was with St. Elizabeth's Hospital in Washington, D. C. He served a residency at the Menninger Foundation School of Psychiatry in Topeka, Kansas. He was board certified in Psychiatry.

Dr. Chappell served in the United States Army Medical Corps during World War II. He had served on the staff of Veterans Administration Hospitals in Topeka, Kansas, North Little Rock, and Memphis and on the staff of the State Hospital. Dr. Chappell retired from the practice of medicine in 1975.

Dr. Chappell was a Clinical Professor of Psy-

chiatry at the University of Arkansas College of Medicine and an Associate Professor of Psychiatry at the University of Tennessee School of Medicine. He was a life fellow of the American Psychiatry Association, an Emeritus member of the Arkansas Medical Society, and on the Board of Examiners of the American Board of Psychiatry.

He is survived by four sons and one daughter.



NEW MEMBERS

DR. BENJAMIN J. WALSH

Dr. Walsh is a new member of the Ashley County Medical Society. He was born in Crossett.

Dr. Walsh received a Bachelor of Arts degree in Chemistry from the University of Arkansas at Fayetteville in 1976. He is a 1980 graduate of the University of Arkansas College of Medicine. Dr. Walsh served an internship and residency at John Peter Smith Hospital in Fort Worth. He is certified by the American Board of Family Practice.

Dr. Walsh joined the Family Clinic at 310 North Alabama in Crossett in July 1983.

DR. JIM H. EARLS

Dr. Earls, a native of Shawnee, Oklahoma, has joined the Boone County Medical Society.

Dr. Earls is a 1958 graduate of the Oklahoma Baptist University in Shawnee and a 1962 graduate of the University of Oklahoma College of Medicine in Oklahoma City. His internship was with the Oakland Naval Hospital in California. Following his internship, he spent a year in the United States Navy School of Deep Sea Diving and the Navy School of Submarine Medicine. He then served a year as Medical Officer with the USS ETHAN ALLEN.

In 1965-66, he was an instructor in the School of Submarine Medicine and Research Medical Officer of the Personnel Selection at the Submarine Medical Center in New London, Connecticut. He served on the staff of the Norwich State Mental Hospital in Connecticut from 1965-67 and as a Medical Officer on the USS FRANCIS SCOTT KEY from 1966-67.

Dr. Earls returned to Oklahoma in 1967 for a three-year residency in Psychiatry at the Oklahoma University Health Sciences Center in Oklahoma City. In 1970, he entered the private practice of Psychiatry in Oklahoma City. He also served from 1970 to 1972 as an Assistant Professor of Psychiatry with the Department of Psychiatry and Behavioral Science at the Oklahoma University Health Sciences Center. Since 1972 he has served as Assistant Clinical Professor of Psychiatry at Oklahoma University Health Sciences Center. He served as a consultant for the Oklahoma Department of Public Safety and the Parent-Child Development Center in Oklahoma City, and as the Psychiatry member of the Special Selection Committee of Oklahoma State Medical Association to evaluate the quality of care provided by the Oklahoma State Mental Health System.

He moved to Springfield, Missouri, in 1979 and became Chief of Psychiatry of the United States Medical Center for Federal Prisoners. In 1980, he entered private practice in Springfield and in 1981 began managing the hospital practice portion of the D. E. Burrell Mental Health Clinic in Springfield. In 1983, he began serving as a Consultant in Psychiatry for the United States Medical Center for Federal Prisoners in Springfield and as a member of the Board of Directors of the Missouri Mental Health Association.

Dr. Earls is practicing Psychiatry in Harrison. His mailing address is Post Office Box 1912, Harrison 72602.

DR. ROBERT A. DORMAN

Dr. Dorman was born in Magnolia. He has joined the Clark County Medical Society.

Dr. Dorman received his pre-medical education at the Southern Arkansas University in Magnolia. He was graduated from the University of Arkansas College of Medicine in 1980. Dr. Dorman served his internship and residency at the University Hospital. He was an instructor in the Department of Medicine of the University Hospital. Dr. Dorman is board certified for Internal Medicine.

Dr. Dorman specializes in Internal Medicine. His office is located in the Woodland Medical Park Building at 2850 Twin Rivers Drive in Arkadelphia.

DR. PATRICK L. WEBER

Dr. Weber, another new member of the Clark County Medical Society, is also a native of Magnolia.

He received a Bachelor of Arts degree in Biology from Hendrix College at Conway in 1972 and was graduated from the University of Arkansas College of Medicine in 1980. Dr. Weber completed a Family Practice residency with the Area Health Education Center in El Dorado.

Dr. Weber has practiced Family Medicine in Arkadelphia for one year. He is at The Family Clinic, 201 North 26th Street.

DR. AMADOR C. CAMPOS

Dr. Campos is a native of Brazil. He has joined the Cleburne County Medical Society.

Dr. Campos is a 1936 graduate of the Faculdade de Medicina De Universidade De Brasil. His internship was in Rio De Janeiro, Brazil.

His first year of Surgery residency was at Truesdale Hospital in Falls River, Massachusetts; the second year at Mount Auburn Hospital (affiliated with Harvard Medical School) in Cambridge; a third year was spent at Memorial Hospital for Cancer and Allied Diseases in New York.

Dr. Campos was an Assistant Professor of Gynecology and Obstetrics at the University of Rio de Janeiro. He also was Professor of Surgery at the Escola de Medicina de Goias in Brasil from 1962 to 1964. Dr. Campos served as Chief of the Department of Colon and Rectal Surgery at the Service Nacional de Cancer Hospital in Rio de Janeiro for several years.

He was in Research training from 1964 to 1965 at the Albert Einstein College of Medicine in New York. Dr. Campos served as a senior resident of Surgery from 1965 to 1966 and as Chief Resident of Surgery from 1966 to 1967 at the Albert Einstein College of Medicine. He has also served as an Instructor of Surgery and Associate Professor of Surgery at the same institution; he was promoted to Assistant Professor of Surgery in 1970. Dr. Campos was in general medicine and general surgery practice in Minnesota until locating in Heber Springs.

Dr. Campos is board eligible in surgery and is a member of the American College of Surgeons. He received his American citizenship in 1969.

Dr. Campos practices at 821 West Main Street in Heber Springs.

DR. A. RAY BOLLEN

Dr. Bollen has joined the Hot Spring County Medical Society. He was born in Arkadelphia.

He is a 1974 graduate of the Ouachita Baptist University in Arkadelphia and a 1980 graduate of the University of Arkansas College of Medicine. His internship and residency training were with the Medical Center Hospital and the Veteran's Administration Hospital in Little Rock.

Dr. Bollen specializes in Internal Medicine. His office is Suite 105 of the Professional Building at 1002 Schneider Drive in Malvern.

DR. JAMES D. ALLEN

Dr. Allen, a native of Nashville, has joined the Independence County Medical Society.

He received a Bachelor of Arts degree in Chemistry in 1970 from the University of Arkansas at Fayetteville. Dr. Allen was graduated from the University of Arkansas College of Medicine in 1974. His internship was with University Hospital.

Dr. Allen served in the United States Navy from 1975 to 1978. He returned to Little Rock in 1978 for residency training at the University.

Dr. Allen began practicing in Batesville in 1982. His office for the practice of Orthopaedic Surgery is at 501 Virginia Drive.

DR. JANET L. TITUS

Dr. Titus was born in Muscatine, Iowa. She has joined the Jefferson County Medical Society.

Dr. Titus received a Bachelor of Arts degree from the University of Iowa in Iowa City in 1976. She is a 1980 graduate of the University of Iowa College of Medicine. Dr. Titus served a Family Practice residency at the Area Health Education Center in Pine Bluff and is board certified by the American Board of Family Practice. She is an Assistant Professor of Family Medicine with AHEC in Pine Bluff at 1421 Cherry.

DR. SANFORD E. HUTSON, III

Dr. Hutson is a new member of the Logan County Medical Society. He was born in Clarendon.

He attended Georgia Tech in Atlanta from 1961 to 1963; he received a Bachelor of Science degree in Medicine from the University of Arkansas in Fayetteville. Dr. Hutson is a 1969 graduate of the University of Arkansas College of Medicine. His internship was with St. Vincent's Infirmary in Little Rock.

Dr. Hutson was a member of the National Guard from 1970 to 1976. He has previously practiced in Broken Bow, Oklahoma, Hot Springs and Little Rock. While in Little Rock, he also

served as chief medical consultant for the Social Security Disability for Arkansas. He has served on the Advisory Board of the National Back Foundation.

Dr. Hutson moved to Paris in 1983. He has joined the Paris Clinic on Highway 22 East for the practice of Family and General Medicine.

DR. ROY L. DESKIN

Dr. Deskin, a new member of the Miller County Medical Society, was born in Corsicana, Texas.

He is a 1971 graduate of the University of Texas at Austin and a 1975 graduate of the University of Texas Medical Branch at Galveston. He served an internship and residency at the same institution. He is board certified in Pediatrics.

Dr. Deskin is a clinical assistant professor of the University of Arkansas College of Medicine.

Dr. Deskin has been a member of the staff at Southern Clinic at 300 East Sixth Street in Texarkana since 1978. His specialty is Pediatrics.

DR. CHARLES M. HOLZNER

Dr. Holzner, a new member of the Mississippi County Medical Society, was born in Budapest, Hungary.

He received a Bachelor of Science degree in 1976 from Stanford University. Dr. Holzner is a 1980 graduate of the New York Medical College. His internship and residency training in Internal Medicine were with the California College of Medicine at the University of California in Irvine. He is board certified in Internal Medicine.

Dr. Holzner specializes in Internal Medicine. His office is located at Tenth and Highland in Blytheville.

DR. WILLIAM A. DEDMAN

Dr. Dedman is a new member of the Ouachita County Medical Society. He was born in Camden.

Dr. Dedman is a 1973 graduate of Hendrix College in Conway and a 1980 graduate of the University of Arkansas College of Medicine. He completed a Family Practice residency. Dr. Dedman is board certified in Family Practice.

Dr. Dedman joined the Medical and Surgical Clinic at 415 Hospital in Camden in 1983 for the practice of Family Medicine.

DR. JEFF AUDIBERT

Dr. Audibert, a native of Fort Kent, Maine, is a new member of the Pope County Medical Society.

He received a Bachelor of Arts in Zoology in 1978 from the University of Maine at Orono. Dr. Audibert is a 1982 graduate of Tufts University School of Medicine in Boston, Massachusetts. He served an internship with Highland Hospital in Oakland, Alameda County, California.

Dr. Audibert specializes in General Practice. He joined the Atkins Clinic in September 1982.

DR. PATRICIA J. (TRISH) BLAIR

Dr. Blair, a new member of the Washington County Medical Society, was born in Kearns, Utah.

She received a Bachelor of Science degree in 1969 and a Master of Science in Chemistry in 1970 from the University of Missouri at Rolla. She is a 1975 graduate of the University of Missouri Columbia School of Medicine.

Dr. Blair served an internship with Bellevue Hospital in New York City. She served a fellowship in Colon and Rectal Surgery at Cleveland Clinic Foundation in Cleveland, Ohio. Dr. Blair also received training at the University of Louisville Hospital in Kentucky.

Dr. Blair was Assistant Instructor in Surgery at New York University and the University of Louisville. She has also practiced Emergency Medicine at Carrolton County Hospital and the Jane Todd Crawford Hospital, both in Kentucky.

Dr. Blair specializes in Emergency Medicine and is on the staff of the Springdale Memorial Hospital. Her mailing address is 2209 Golden Oaks, Fayetteville 72701.

DR. TIMOTHY B. MORITZ

Dr. Moritz, a new member of the Washington County Medical Society, was born in Portsmouth, Ohio.

He received a Bachelor of Arts degree from the Ohio State University in 1959 and was graduated from Cornell University Medical College in New York in 1963 to 1967. Dr. Moritz served with the United States Public Health Service from 1967 to 1969.

Dr. Moritz has practiced in Bethesda, Maryland; Pomona, New York; Columbus and Dayton, Ohio; and in Athens, Georgia. He has also served as a Clinical Professor of Psychiatry at Wright State Medical School in Dayton, Clinical Assistant Professor at Cornell, Director of Ohio Department of Mental Health and Mental Retardation.

Dr. Moritz is board certified in Psychiatry. He is presently serving as Medical Director of Charter Vista Hospital at 4253 Crossover Road in Fayetteville.

DR. ROBERT A. PETRINO

Dr. R. A. Petrino is also a new member of the

Washington County Medical Society. He was born in Trenton, New Jersey.

Dr. Petrino received a Bachelor of Arts degree in 1971 from Wake Forest University in Winston-Salem, North Carolina. He received a Master of Science degree in 1974 from the University of Arkansas. Dr. Petrino is a 1978 graduate of the University of Arkansas College of Medicine.

His Surgery internship and General Surgery residency were also with the University. He is a Candidate member of the American College of Surgeons.

Dr. Petrino has joined Dr. John H. Kendrick at 604 West Emma in Springdale.

DR. STEVEN F. COLLIER

Dr. Collier has joined the White County Medical Society. He was born in Searcy.

His pre-medical education was with Baylor University in Waco, Texas. Dr. Collier is a 1980 graduate of the University of Arkansas College of Medicine.

After an internship with Jefferson Hospital in Pine Bluff, Dr. Collier began practicing in Augusta.

Dr. Collier practices Family Medicine in an office on Highway 64 East in Augusta. His mailing address is Post Office Box 277, Augusta 72006.

* * * *

The Pulaski County Medical Society has eight new members:

DR. DAVID C. BAUMAN

Dr. Bauman, a native of Little Rock, is a 1972 graduate of Tulane University in New Orleans. He was graduated from Tulane University School of Medicine in 1976.

He served an internship in Medicine at Charity Hospital in New Orleans. His Medicine residency was with Tulane University. Dr. Bauman received training in Cardiology from 1980 to 1982 at Vanderbilt University Affiliated Hospitals in Nashville. He is certified by the American Board of Internal Medicine.

Dr. Bauman was a staff Cardiologist and Director of Noninvasive Cardiac Studies at Touro Infirmary in New Orleans from 1982 until he moved to Little Rock.

Dr. Bauman specializes in Cardiology at the Blandford Physicians Center, #5 St. Vincent Circle in Little Rock.

DR. J. NEAL BEATON

Dr. Beaton was born in Wynne. He is a 1974 graduate of the University of Arkansas at Fayetteville and a 1978 graduate of the University of Arkansas College of Medicine.

He served a Straight Medicine internship, an Internal Medicine residency and Pulmonary fellowship at the University. Dr. Beaton is board certified in Internal Medicine.

Dr. Beaton specializes in Pulmonary and Internal Medicine. He is associated with the Little Rock Diagnostic Clinic at 1001 Lile Drive.

DR. BRONIER L. COSTAS

Dr. Costas, a native of Lynchburg, Virginia, was graduated from the University of Virginia at Lynchburg in 1972. He is a 1976 graduate of the University of Virginia School of Medicine.

He received training in Orthopaedic Surgery at the University of Minnesota Affiliated Hospitals in Minneapolis and St. Paul from 1976 to 1981. Dr. Costas was in a Hand Fellowship with the Department of Orthopaedics at Massachusetts General Hospital in Boston from 1981 to 1982.

Dr. Costas specializes in Orthopaedic Surgery. He is on the staff of the University of Arkansas College of Medicine, Arkansas Children's Hospital and the Veteran's Administration Hospital in Little Rock.

DR. DOUGLAS B. HORAN

Dr. Horan was born in Tyler, Texas. His premedical education was with Rice University in Houston. Dr. Horan is a 1979 graduate of Baylor College of Medicine in Houston.

Dr. Horan trained in Internal Medicine at the Affiliated Hospitals of Baylor College of Medicine. He was in a Dermatology residency at the University of Arkansas College of Medicine from 1981 to 1983. He received further training in Dermatology at the Columbia University College of Physicians and Surgeons in New York from January 1983 to June 1984.

Dr. Horan specializes in Dermatology. He is associated with the Little Rock Diagnostic Clinic at 10001 Lile Drive.

DR. JOHN A. MALLORY

Dr. Mallory is a native of Little Rock. He received Bachelor of Arts and Master of Science degrees from the University of Arkansas at Fayetteville. He is a 1980 graduate of the University of Arkansas College of Medicine.

He served a Flexible internship at the University Hospital and trained in Anesthesiology at the University. Dr. Mallory served a fellowship in Pediatric and Cardiology Anesthesiology at the University and Arkansas Children's Hospital.

Dr. Mallory is associated with Arkansas Anesthesia at 9601 Lile Drive, Plaza A, in Little Rock.

DR. MARY E. O'BRIEN

Dr. O'Brien was born in Pittsburgh, Pennsylvania. She received a Bachelor of Arts degree from Manhattanville College in Purchase, New York, in 1975. Dr. O'Brien is a 1980 graduate of the University of Massachusetts School of Medicine in Worcester.

Her training in Internal Medicine was with Worcester Memorial Hospital from 1980 to 1984. She is board certified in Internal Medicine.

Dr. O'Brien specializes in Internal Medicine and is associated with the Little Rock Diagnostic Clinic at 10001 Lile Drive.

DR. J. GERALD QUIRK

Dr. Quirk, a native of Yonkers, New York, received a Bachelor of Science degree from Manhattan College in Bronx, New York, in 1968. He is a 1974 graduate of State University of New York Downstate College of Medicine in Brooklyn.

He received training in Obstetrics and Gynecology from 1974 to 1978 at the Columbia Presbyterian Medical Center in New York. Dr. Quirk was in Maternal/Fetal residency training at the Southwestern Medical School from 1978 to 1980. He served a Medicine Fellowship at Parkland Memorial Hospital in Dallas from 1978 to 1980. He is board certified in Obstetrics and Gynecology.

Dr. Quirk was on the staff of Parkland Memorial Hospital and St. Paul Hospital from 1980 to 1983.

Dr. Quirk is on the staff of the Department of Obstetrics and Gynecology at the University of Arkansas College of Medicine. He specializes in Maternal and Fetal Medicine.

DR. GEORGE R. SMITH, JR.

Dr. Smith was born in Jonesboro. He received a Bachelor of Science degree from Southwestern at Memphis in Tennessee in 1973. He is a 1977 graduate of the University of Arkansas College of Medicine.

Dr. Smith served as an intern and a resident in Psychiatry at the University Hospital in Little Rock. He served a Fellowship in Psychiatry and Medicine at the University of Rochester School of Medicine and Dentistry in Rochester, New York. He was an instructor in Psychiatry and Medicine at Rochester from 1980 to 1981. In 1981, Dr. Smith joined the University of Arkansas College of Medicine as an Assistant Professor of Psychiatry and Medicine.

He was certified by the American Board of Psychiatry and Neurology in 1983.

DR. DAVID A. DAVIS

Dr. Davis, a new member of the Washington County Medical Society, was born in Ada, Oklahoma.

He received Bachelor of Science and Master of Education degrees from the University of Oklahoma. Dr. Davis is a 1976 graduate of the University of Oklahoma College of Medicine in Oklahoma City. His internship and residency were with the University of Texas Southwestern Medical School in Dallas. He is certified in Neurology.

Dr. Davis was on the staff of Mease Clinic in Dunedin, Florida, from 1980 to 1983, and practiced in Dallas for nine months. He moved to Fayetteville in February.

Dr. Davis specializes in Neurology. His office is Suite C of 3000 Market in Fayetteville.

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RESIDENTS AND INTERNS MEMBERSHIP

DR. DAVID F. RHODES

Dr. Rhodes received his pre-medical education at the University of Texas in Austin. He is a 1983 graduate of the University of Texas Medical Branch at Galveston. Dr. Rhodes is in residency training in Radiology at the University of Arkansas College of Medicine.

THINGS TO COME

September 19

Management of Cancer in the Elderly. Sponsored by the Little Rock Geriatric Research, Education and Clinical Center, University of Arkansas Medical Sciences Cancer Education Program and the Arkansas and Mississippi Divisions of the American Cancer Society. Little Rock Excelsior. Registration fee is $30. 7 hours AMA Category I and 6¾ prescribed hours by the American Academy of Family Physicians. For further information, contact Phyllis Dougherty, Program Assistant, Little Rock GRECC, 300 East Roose-

velt Road, Little Rock 72206 or telephone 501-372-8361 extension 541.

October 4-5

Family Practice Update. University of Mississippi School of Medicine Department of Family Medicine and the University of Mississippi Medical Center Division of Continuing Health Professional Education. Sheraton Regency, Jackson, Mississippi. Registration fee $125. 24.5 hours of Category I AMA and American Academy of Family Physicians. For further information, contact the Continuing Education University of Mississippi Medical Center, 2500 North State Street, Jackson, Mississippi 39216; telephone 601-987-4914.

October 5-7

Malpractice Prophylaxis. Southern Medical Association. Colonial Williamsburg Foundation, Williamsburg, Virginia. Registration fee is $220 for SMA members; $275 for nonmembers. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; telephone 205-323-4400.

October 19-20

Annual Pediatric Meeting. University of Mississippi Medical Center, Jackson, Mississippi. For further information, contact Continuing Education, University of Mississippi Medical Center, 2500 North State Street, Jackson, Mississippi 39216; telephone 601-987-4914.

October 23

Thoracic Society Annual Meeting. University of Mississippi Medical Center, Jackson, Mississippi. For further information, contact Continuing Education, University of Mississippi Medical Center, 2500 North State Street, Jackson, Mississippi 39216; telephone 601-987-4914.

October 24-27

The American Academy of Clinical Anesthesiologists Fall Seminar. Cosponsored by the East Tennessee State University Quillen Dishner College of Medicine. Grove Park Inn, Asheville, North Carolina. 11 hours Category I. For further information, contact AACA, Knoxville, Tennessee 37919; telephone 615-588-6279.

April 17-21

109th Annual Session of the Arkansas Medical Society. Arlington Hotel, Hot Springs.

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For further information contact Arkansas Medical Society Physician Placement Service, Post Office Box 1208, Fort Smith, Arkansas 72902.

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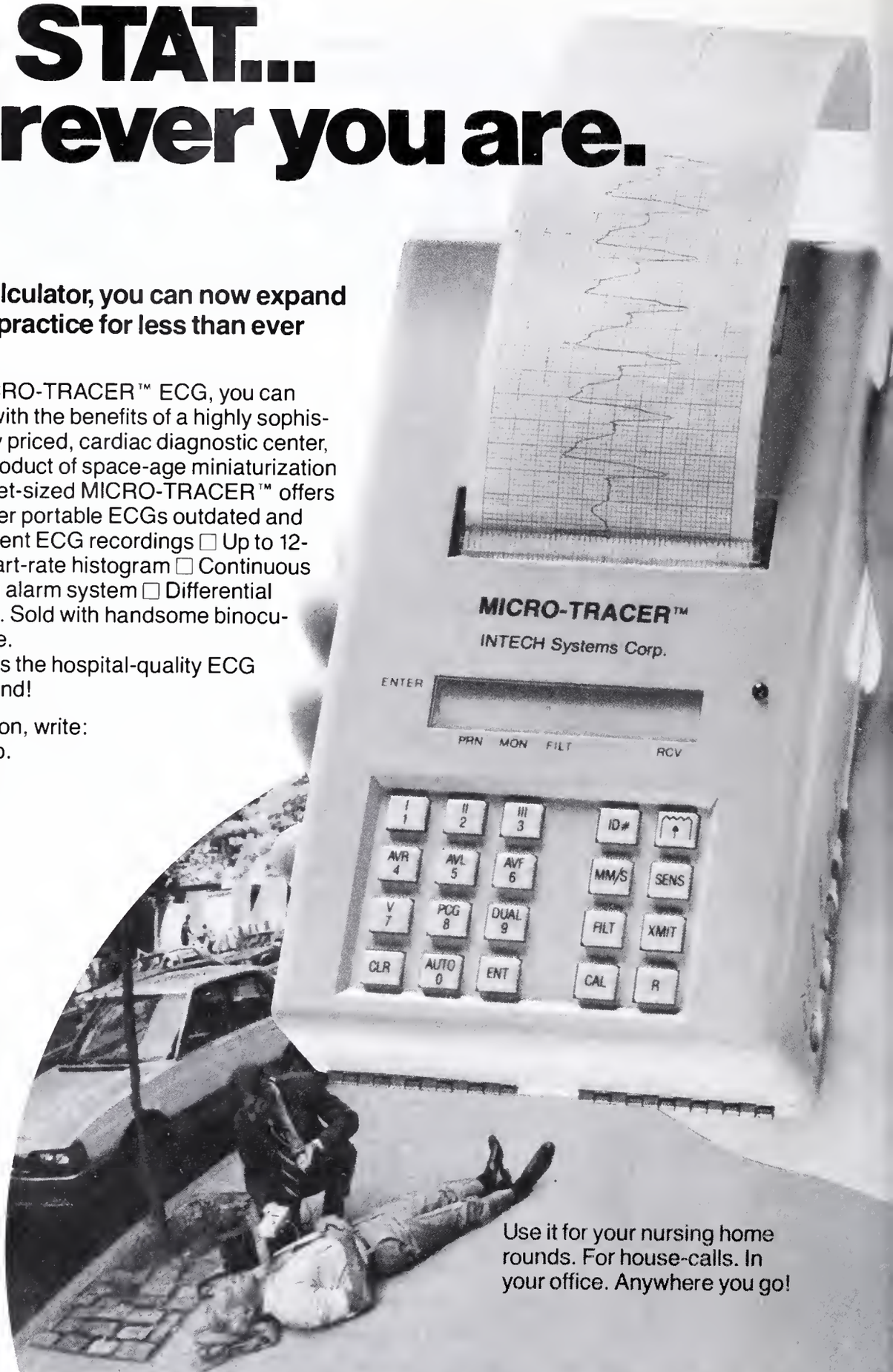
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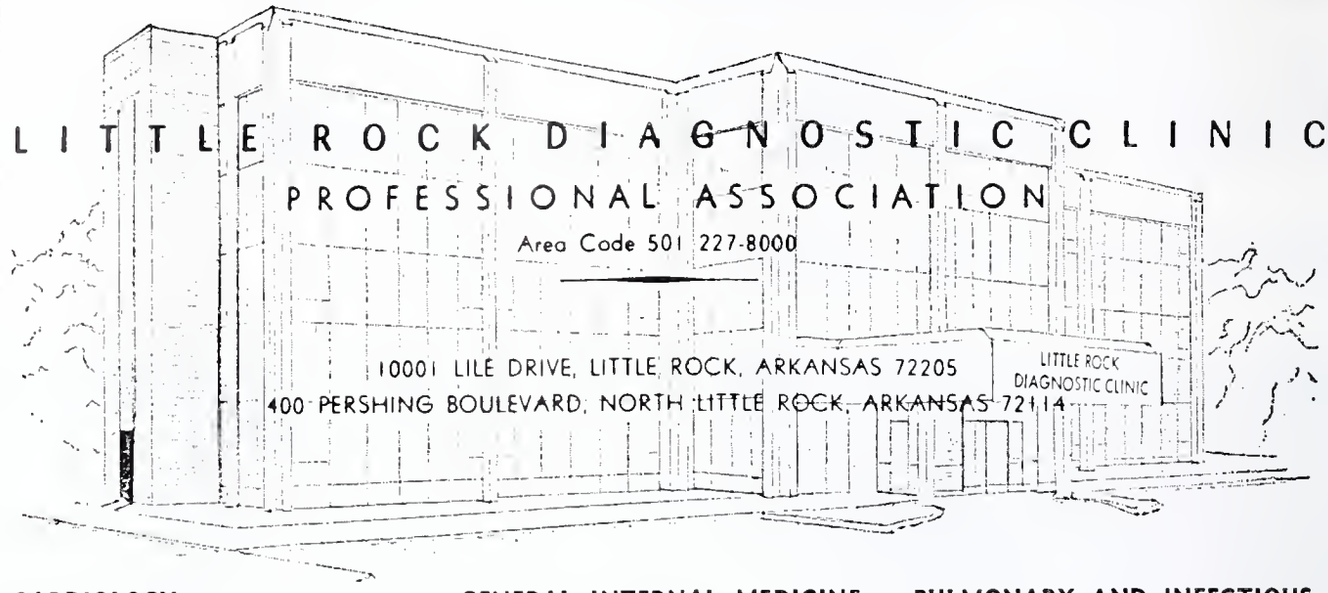
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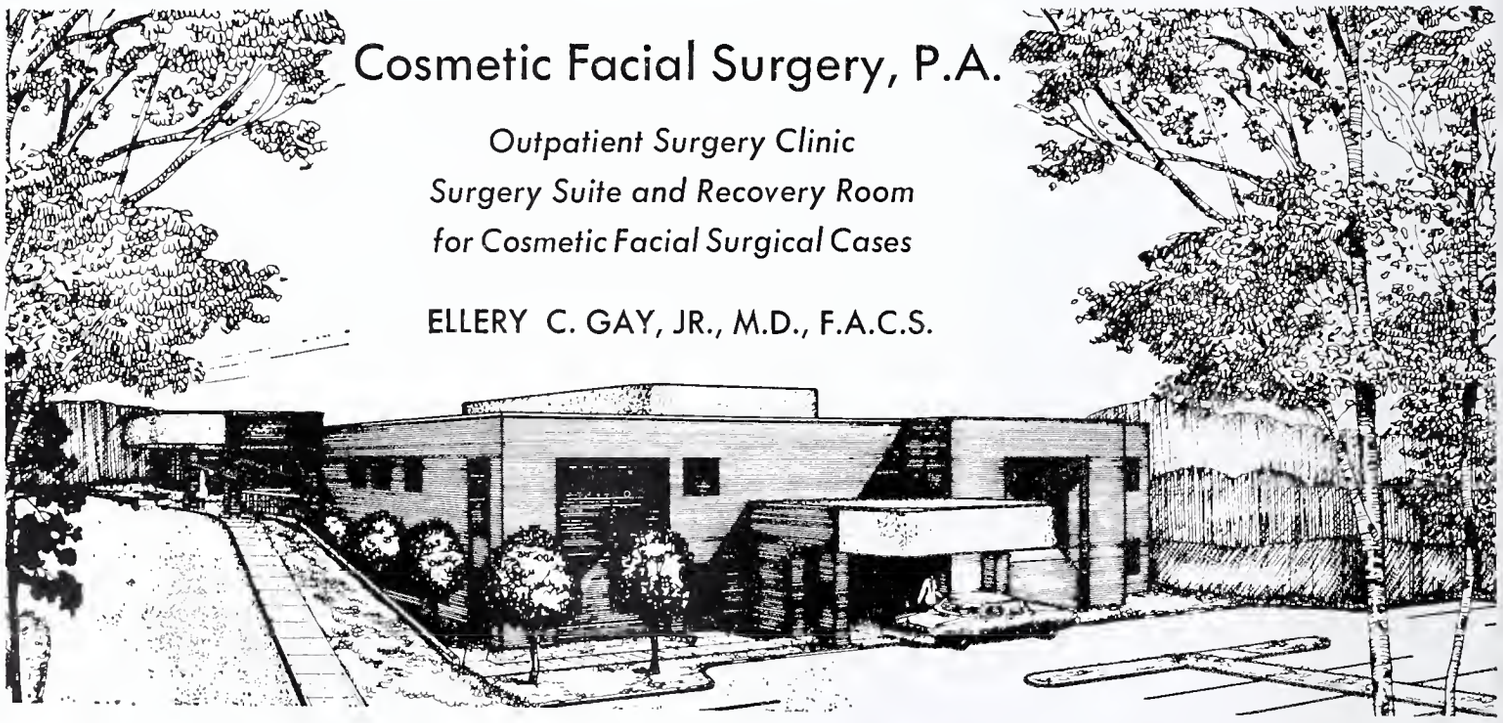
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aindications: Concomitant use with other potassium-g agents such as spironolactone or amiloride. Further use na, progressive renal or hepatic dysfunction, hyperkalemia sting elevated serum potassium. Hypersensitivity to either onent or other sulfonamide-derived drugs.

ngs: Do not use potassium supplements, dietary or other- unless hypokalemia develops or dietary intake of potas- is markedly impaired. If supplementary potassium is d potassium tablets should not be used. Hyperkalemia cur and has been associated with cardiac irregularities. It e likely in the severely ill, with urine volume less than one ay, the elderly and diabetics with suspected or confirmed nsufficiency. Periodically, serum K^+ levels should be deter- If hyperkalemia develops, substitute a thiazide alone, K^+ intake. **Associated widened QRS complex or arrhyth- equires prompt additional therapy.** Thiazides cross the tal barrier and appear in cord blood. Use in pregnancy es weighing anticipated benefits against possible hazards, ng fetal or neonatal jaundice, thrombocytopenia, other e reactions seen in adults. Thiazides appear and tri- ene may appear in breast milk. If their use is essential, the should stop nursing. Adequate information on use in en is not available. Sensitivity reactions may occur in ts with or without a history of allergy or bronchial asthma. le exacerbation or activation of systemic lupus erythe- us has been reported with thiazide diuretics.

utions: Do periodic serum electrolyte determinations (par- y important in patients vomiting excessively or receiving eral fluids, and during concurrent use with amphotericin B ticosteroids or corticotropin [ACTH]). Periodic BUN and creatinine determinations should be made, especially in lerly, diabetics or those with suspected or confirmed renal ciency. Cumulative effects of the drug may develop in ts with impaired renal function. Thiazides should be used aution in patients with impaired hepatic function. They can ilate coma in patients with severe liver disease. Observe rly for possible blood dyscrasias, liver damage, other idio- lic reactions. Blood dyscrasias have been reported in ts receiving triamterene, and leukopenia, thrombocyto- agranulocytosis, and aplastic and hemolytic anemia have reported with thiazides. Thiazides may cause manifestation nt diabetes mellitus. The effects of oral anticoagulants may creased when used concurrently with hydrochlorothiazide; e adjustments may be necessary. Clinically insignificant tions in arterial responsiveness to norepinephrine have reported. Thiazides have also been shown to increase the zing effect of nondepolarizing muscle relaxants such as urarine. Triamterene is a weak folic acid antagonist. Do lic blood studies in cirrhotics with splenomegaly. Anti- tensive effects may be enhanced in post-sympathectomy ts. Use cautiously in surgical patients. Triamterene has found in renal stones in association with the other usual us components. Therefore, 'Dyazide' should be used with n in patients with histories of stone formation. A few occur- s of acute renal failure have been reported in patients on de' when treated with indomethacin. Therefore, caution is ed in administering nonsteroidal anti-inflammatory agents Dyazide'. The following may occur: transient elevated BUN eatinine or both, hyperglycemia and glycosuria (diabetic n requirements may be altered), hyperuricemia and gout, is intoxication (in hypokalemia), decreasing alkali reserve ossible metabolic acidosis. 'Dyazide' interferes with fluores- measurement of quinidine. Hypokalemia is uncommon with de', but should it develop, corrective measures should be such as potassium supplementation or increased dietary e of potassium-rich foods. Corrective measures should be ted cautiously and serum potassium levels determined. ntinue corrective measures and 'Dyazide' should labora- values reveal elevated serum potassium. Chloride deficit occur as well as dilutional hyponatremia. Concurrent use chlorpropamide may increase the risk of severe hypo- mia. Serum PBI levels may decrease without signs of thyroid bance. Calcium excretion is decreased by thiazides. de' should be withdrawn before conducting tests for para- d function.

ides may add to or potentiate the action of other antihyper- ve drugs.

tics reduce renal clearance of lithium and increase the risk ium toxicity.

rse Reactions: Muscle cramps, weakness, dizziness, head- dry mouth; anaphylaxis, rash, urticaria, photosensitivity, ura, other dermatological conditions; nausea and vomiting, hea, constipation, other gastrointestinal disturbances; pos- hypotension (may be aggravated by alcohol, barbiturates, arcotics). Necrotizing vasculitis, paresthesias, icterus, realitis, xanthopsia and respiratory distress including pneu- tis and pulmonary edema, transient blurred vision, sialade- and vertigo have occurred with thiazides alone. Triamterene been found in renal stones in association with other usual lus components. Rare incidents of acute interstitial nephritis been reported. Impotence has been reported in a few nts on 'Dyazide', although a causal relationship has not established.

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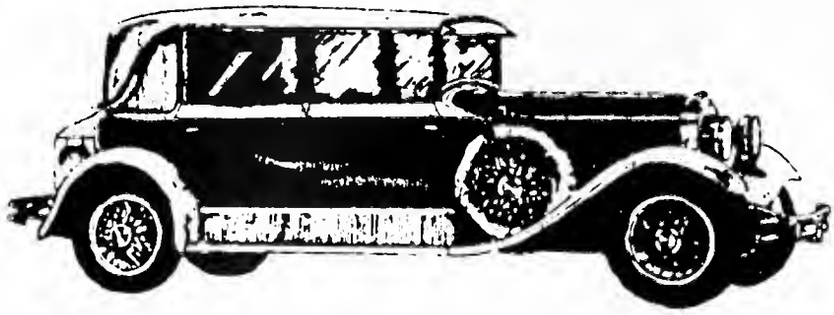
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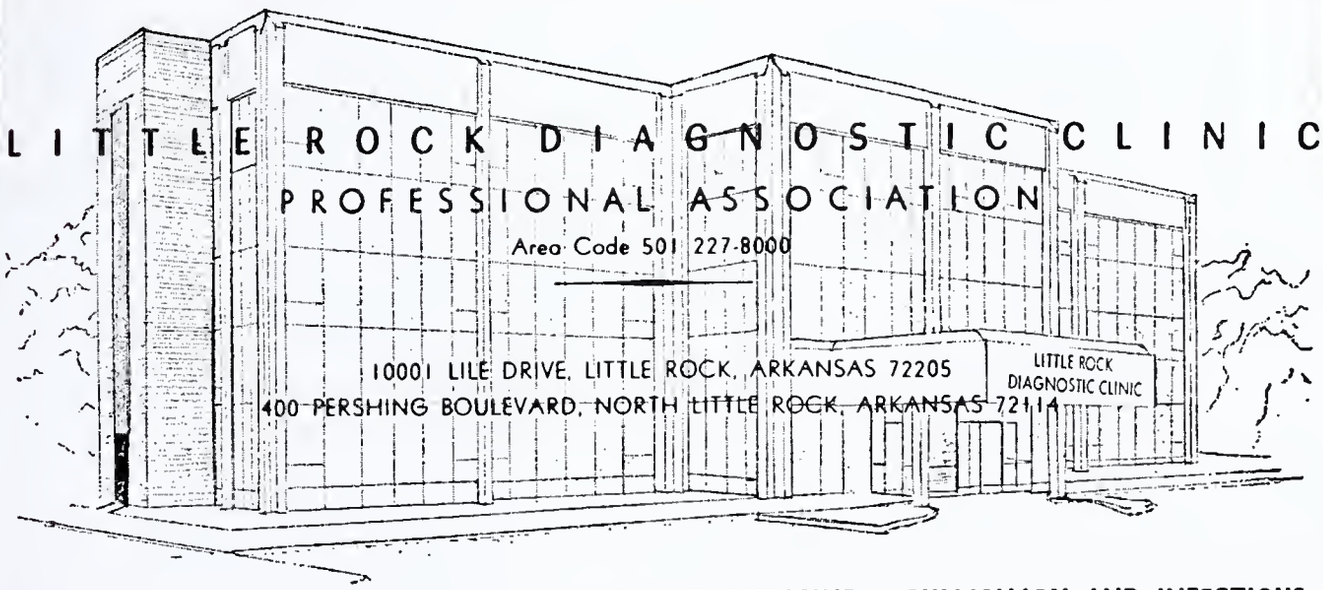
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multi-drug therapy to help avoid unnecessary complications.[2]

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References:
1. Salzman C, Hoffman SA. Hosp Community Psychiatry 34: 897-902, 1983.
2. Ruffalo RL, Thompson JF, Segal JL. South Med J 74: 1075-1078, 1981.

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Contraindications: Known sensitivity to benzodiazepines or acute narrow-angle glaucoma.

Warnings: Not recommended in primary depressive disorders or psychoses. As with all CNS-acting drugs, warn patients not to operate machinery or motor vehicles, and of diminished tolerance for alcohol and other CNS depressants.

Physical and Psychological Dependence: Withdrawal symptoms like those noted with barbiturates and alcohol have occurred following abrupt discontinuance of benzodiazepines (including convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Addiction-prone individuals, e.g. drug addicts and alcoholics, should be under careful surveillance when on benzodiazepines because of their predisposition to habituation and dependence. Withdrawal symptoms have also been reported following abrupt discontinuance of benzodiazepines taken continuously at therapeutic levels for several months.

Precautions: In depression accompanying anxiety, consider possibility for suicide.

For elderly or debilitated patients, initial daily dosage should not exceed 2mg to avoid oversedation. Terminate dosage gradually since abrupt withdrawal of any antianxiety agent may result in symptoms like those being treated: anxiety, agitation, irritability, tension, insomnia and occasional convulsions. Observe usual precautions with impaired renal or hepatic function. Where gastrointestinal or cardiovascular disorders coexist with anxiety, note that lorazepam has not been shown of significant benefit in treating gastrointestinal or cardiovascular component. Esophageal dilation occurred in rats treated with lorazepam for more than 1 year at 6mg/kg/day. No effect dose was 1.25mg/kg/day (about 6 times maximum human therapeutic dose of 10mg/day). Effect was reversible only when treatment was withdrawn within 2 months of first observation. Clinical significance is unknown; but use of lorazepam for prolonged periods and in geriatrics requires caution and frequent monitoring for symptoms of upper G.I. disease. Safety and effectiveness in children under 12 years have not been established.

ESSENTIAL LABORATORY TESTS: Some patients have developed leukopenia; some have had elevations of LDH. As with other benzodiazepines, periodic blood counts and liver function tests are recommended during long-term therapy.

CLINICALLY SIGNIFICANT DRUG INTERACTIONS: Benzodiazepines produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

CARCINOGENESIS AND MUTAGENESIS: No evidence of carcinogenic potential emerged in rats during an 18-month study. No studies regarding mutagenesis have been performed.

PREGNANCY: Reproductive studies were performed in mice, rats, and 2 strains of rabbits. Occasional anomalies (reduction of tarsals, tibia, metatarsals, malrotated limbs, gastroschisis, malformed skull and microphthalmia) were seen in drug-treated rabbits without relationship to dosage. Although all these anomalies were not present in the concurrent control group, they have been reported to occur randomly in historical controls. At 40mg/kg and higher, there was evidence of fetal resorption and increased fetal loss in rabbits which was not seen at lower doses. Clinical significance of these findings is not known. However, increased risk of congenital malformations associated with use of minor tranquilizers (chlordiazepoxide, diazepam and meprobamate) during first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, use of lorazepam during this period should almost always be avoided. Possibility that a woman of child-bearing potential may be pregnant at institution of therapy should be considered. Advise patients if they become pregnant to communicate with their physician about desirability of discontinuing the drug. In humans, blood levels from umbilical cord blood indicate placental transfer of lorazepam and its glucuronide.

NURSING MOTHERS: It is not known if oral lorazepam is excreted in human milk like other benzodiazepines. As a general rule, nursing should not be undertaken while on a drug since many drugs are excreted in milk.

Adverse Reactions, if they occur, are usually observed at beginning of therapy and generally disappear on continued medication or on decreasing dose. In a sample of about 3,500 anxious patients, most frequent adverse reaction is sedation (15.9%), followed by dizziness (6.9%), weakness (4.2%) and unsteadiness (3.4%). Less frequent are disorientation, depression, nausea, change in appetite, headache, sleep disturbance, agitation, dermatological symptoms, eye function disturbance, various gastrointestinal symptoms and autonomic manifestations. Incidence of sedation and unsteadiness increased with age. Small decreases in blood pressure have been noted but are not clinically significant, probably being related to relief of anxiety.

Transient amnesia or memory impairment has been reported in association with the use of benzodiazepines.

Overdosage: In management of overdosage with any drug, bear in mind multiple agents may have been taken. Manifestations of overdosage include somnolence, confusion and coma. Induce vomiting and/or undertake gastric lavage followed by general supportive care, monitoring vital signs and close observation. Hypotension, though unlikely, usually may be controlled with Levarterenol Bitartrate Injection U.S.P. Usefulness of dialysis has not been determined.

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DOSAGE: Individualize for maximum beneficial effects. Increase dose gradually when needed, giving higher evening dose before increasing daytime doses. Anxiety, usually 2-3mg/day given b.i.d. or t.i.d.; dosage may vary from 1 to 10mg/day in divided doses. For elderly or debilitated, initially 1-2mg/day; insomnia due to anxiety or transient situational stress, 2-4mg h.s.

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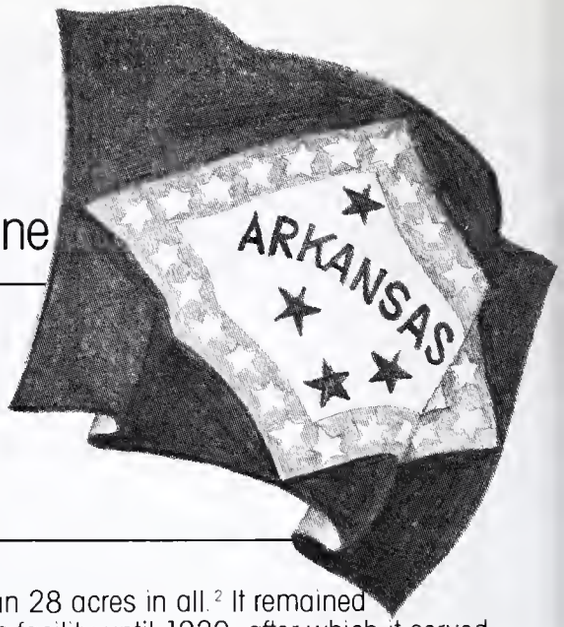
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Born at the dinner table

An important result of their collaborations and recommendations was the appropriation by the United States Congress in 1882 of funding for the first joint services hospital—the Army and Navy General Hospital at Hot Springs, Arkansas. The original proposal for this historic institution was made over dinner at the Old Palace Bath House in Hot Springs.[2]

On January 17, 1887, only one year after the city's incorporation, this pioneer facility opened to receive patients. The 80-bed hospital consisted of five separate buildings connected by verandas.[3]

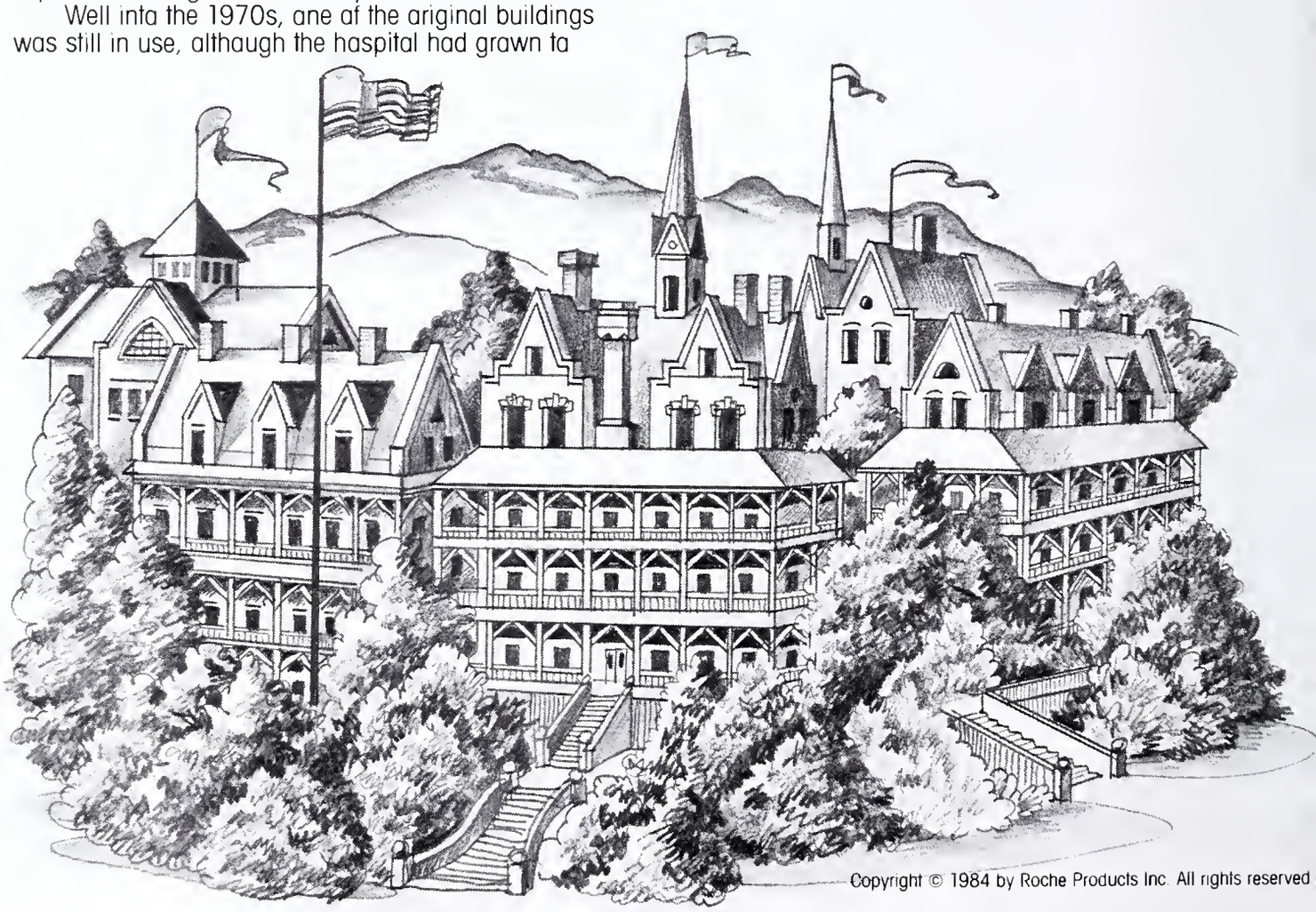
Well into the 1970s, one of the original buildings was still in use, although the hospital had grown to 59 buildings on 28 acres in all.[2] It remained a joint services facility until 1920, after which it served only Army patients and continued to do so for an additional 38 years while retaining its original name.[2]

The state gets a bargain

In April 1960 it was deeded over to the state of Arkansas for the legal sum of one dollar, and the state now runs it as the Hot Springs Rehabilitation Center, a treatment and training center serving handicapped people in the entire Southwest.[2]

However, as the first Army and Navy joint services hospital, it was the historic precursor of medical care facilities for United States military and naval personnel throughout the world.

References: **1.** Holl CR. The lessons of the War Between the States, in *History of American Medicine*, edited by Morti-Iboñez F, New York, MD Publications, 1959, pp. 92-93. **2.** *The Student Echo*, Hot Springs Rehobilitation Center, Hot Springs, Arkansas, Jan. 1974, pp. 2-5. **3.** Kane JN. *Famous First Facts*, 3rd ed., New York, The H. W. Wilson Co., 1964, p. 302.



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- ☐ Early insomnia—91%
 Middle insomnia—87%
 Late insomnia—89%
- ☐ Gastrointestinal upset—73%

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Patients should be cautioned about the combined effects with alcohol or other CNS depressants and about activities requiring complete mental alertness such as operating machinery or driving a car.

References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine,* edited by Jarvik ME; New York, Appleton-Century-Crofts, 1977, p. 316 **2.** Feighner JP *et al: Psychopharmacology 61:* 217-229, Mar 1979 **3.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated, sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.

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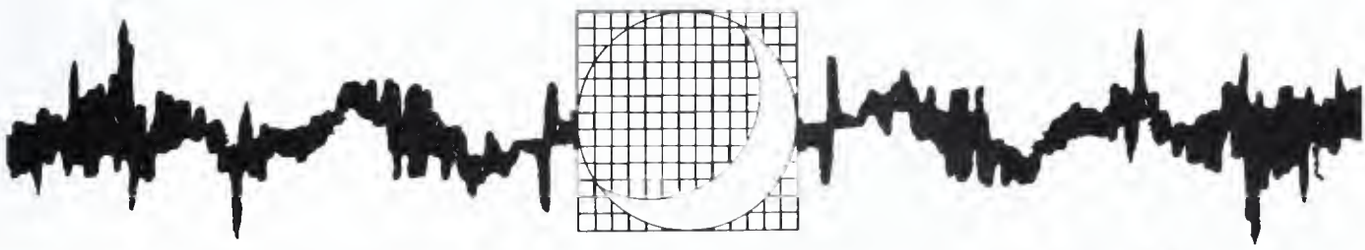
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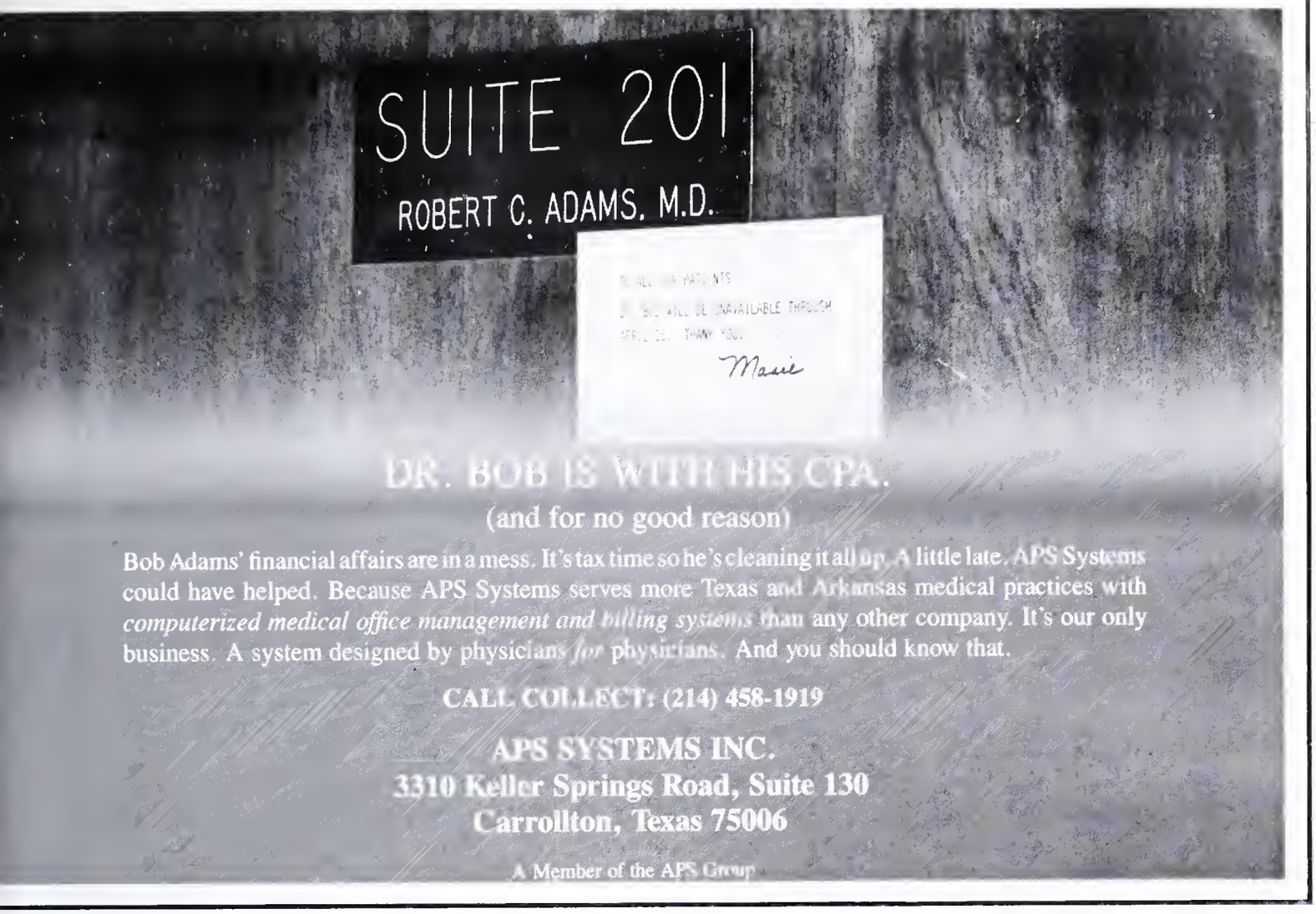


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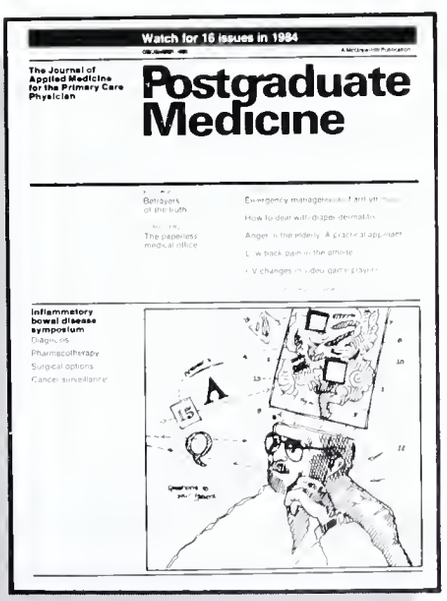
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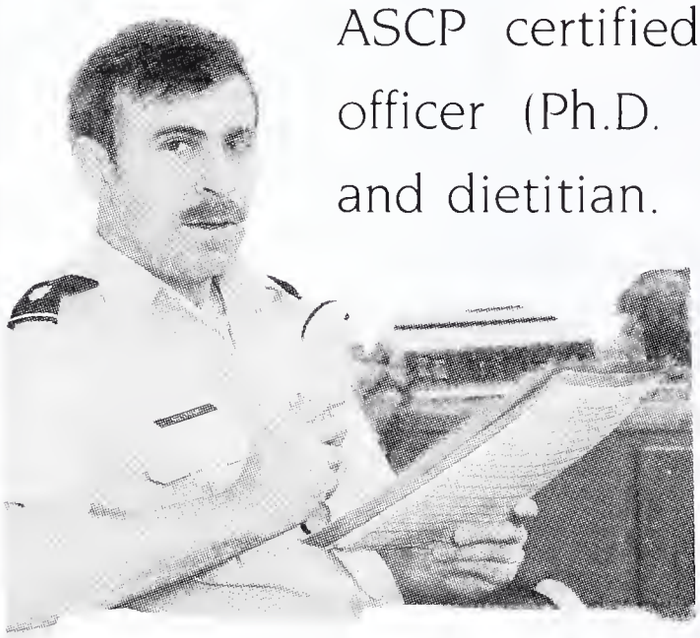
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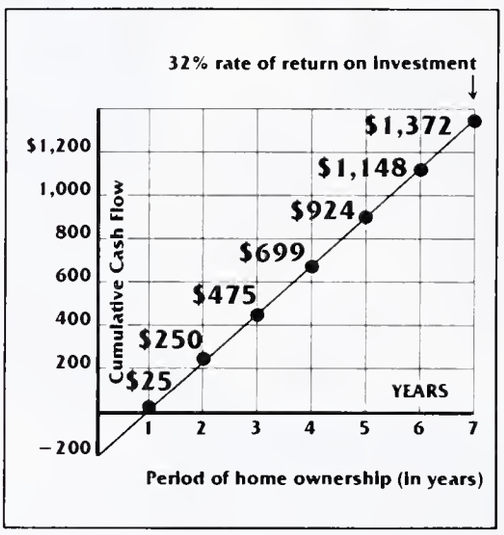
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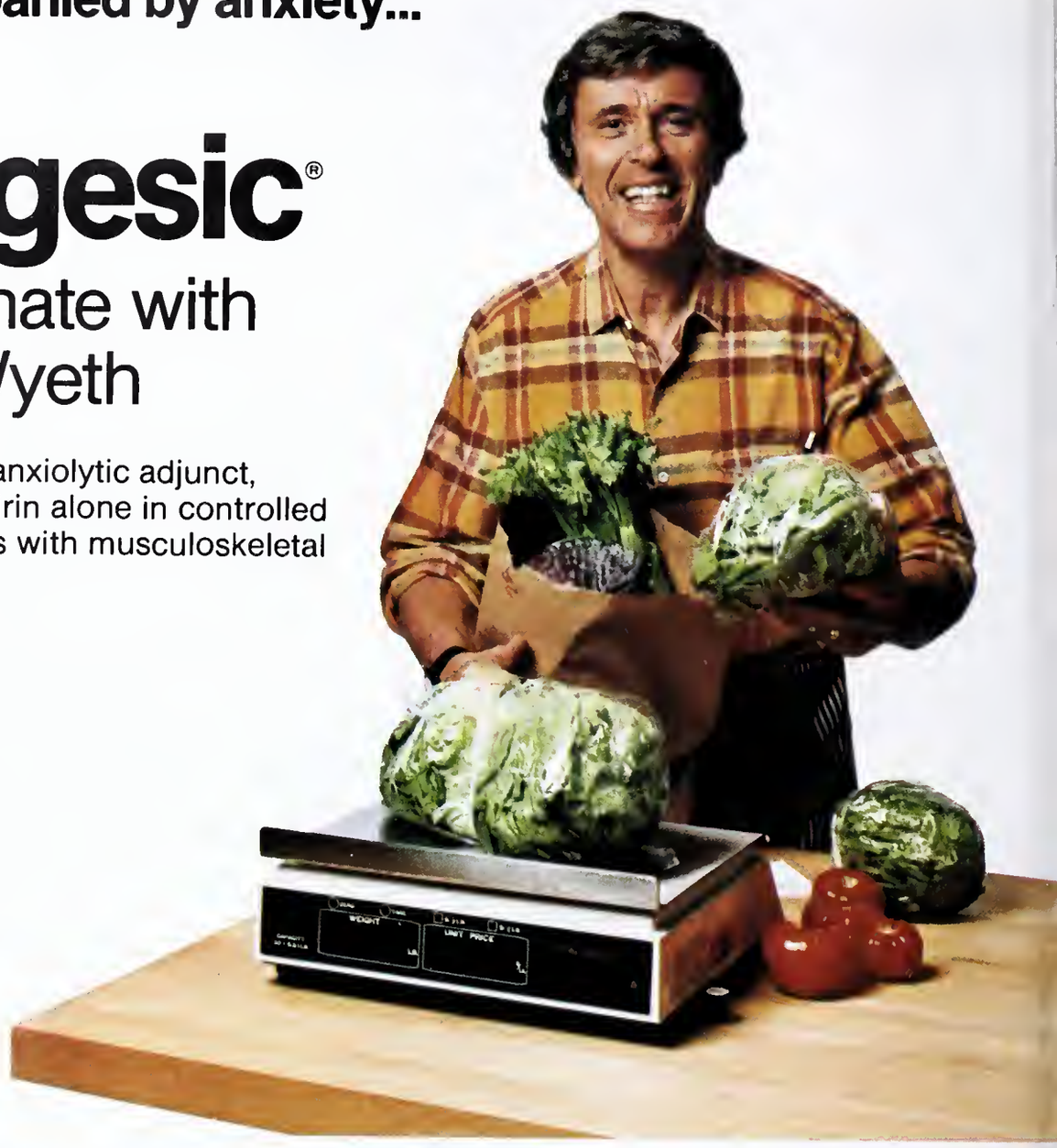


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Each tablet contains 200 mg meprobamate and 325 mg aspirin

INDICATIONS:
Adjunct in short-term treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease. Clinical trials demonstrated that in these situations relief of pain is somewhat greater than with aspirin alone. Effectiveness in long-term use, i.e. over 4 months, has not been assessed by systematic clinical studies. Physicians should periodically reassess usefulness of drug for individual patients.

CONTRAINDICATIONS:
ASPIRIN: Allergic or idiosyncratic reactions to aspirin or related compounds.

MEPROBAMATE: Acute intermittent porphyria, allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromal.

WARNINGS:
ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE: DRUG DEPENDENCE
Physical and psychological dependence, and abuse have occurred. Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, anorexia, or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, contusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation, symptoms usually cease within next 12- to 48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USAGE IN PREGNANCY AND LACTATION:
An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a women of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physician about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic® (meprobamate with aspirin) is not recommended for patients 12 years of age and under.

PRECAUTIONS:
ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.

MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS:
ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.

GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapuler rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSAGE AND ADMINISTRATION:
Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSAGE:
Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 grams meprobamate and survival with as much as 40 grams.

BLOOD LEVELS:
0.5-2.0 mg percent represents usual blood-level range of meprobamate after therapeutic doses. The level may occasionally be as high as 3.0 mg percent.

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected.

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration. Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

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Goldmann Perimetry at the V. A. Hospital: One Year Follow-up in 65 Glaucoma Patients

Alan H. Zalta, M.D., and John P. Shock, M.D.*

ABSTRACT

65 glaucoma patients (126 eyes) received quantitated Goldmann perimetry for two consecutive years and were evaluated for reproduceability and sensitivity in detecting progression of visual field loss. A minimum of two visual thresholds differing by at least 0.5 log unit were used to quantitate the depth and slopes of visual field defects.

On one year follow-up perimetry, all 65 patients (126 eyes) still had classic nerve fiber bundle defects. During the one year interim, 53% of eyes had stabilized and showed no evidence of progression of visual field loss. In contrast, 47% of eyes demonstrated clearcut evidence of progression of visual field loss. Of these, 7% were due to progression of cataracts and 40% due to progression of glaucoma. The incidence of paracentral scotomas, non-specific blind spot abnormalities, nasal steps, and temporal steps remained essentially unchanged from one year to the next. However, there were dramatic changes in the incidence of nonspecific peripheral constriction and arcuate scotomas, both of which increased by 22%. These are two of the most common types of progression seen in glaucomatous visual fields and clearly reflects the glaucomatous progression found in 40% of the patients. This study reaffirms quantitated Goldmann perimetry not only as highly reproduceable, but also as extremely sensitive for detecting progression of glaucoma.

INTRODUCTION

The Armaly-Drance technique is the accepted standard for perimetric glaucoma screening. It is a rapid and accurate method for determining whether a glaucomatous visual field defect is present. Yet, while finding glaucomatous defects allows us to make the diagnosis and initiate treatment, it is the subsequent quantification of defects that allows us to determine progression of visual field loss. Quantification involves defining the depth and boundary of scotomas at different visual thresholds. In fact, many glaucoma specialists rely solely on progression of visual field damage for deciding whether ocular hypotensive therapy should be changed, relegating intraocular pressure and the cup-disc ratio to relatively minor roles. This study evaluates quantitated perimetric visual fields from two consecutive years in a glaucoma population for reproduceability and sensitivity in detecting progression of visual field loss.

MATERIALS AND METHODS

All subjects received their initial perimetric visual fields using the methods previously reported.[1] Of the original 104 patients, the 5 who were glaucoma suspects were excluded, and 34 patients with glaucoma were lost to follow-up. A total of 65 patients with glaucoma were seen one year later and received follow-up Goldmann perimetry. These 65 patients (126 eyes) with quantitated perimetry in two consecutive years form the basis of this study.

The distribution of patient diagnoses was as follows: 56 with chronic open angle glaucoma, five with mixed glaucoma, and four with secondary glaucoma.

The mean patient age was 59 years. 77% of patients were white; 23% were black. All patients were male. The mean cup-disc ratio was 0.62. All patients were on ocular hypotensive therapy.

A quantitated Armaly-Drance technique was performed on each patient in two consecutive years. This technique combines central and peripheral kinetic plotting with static spot checking. A minimum of 76 static spots were checked within the central 20 degrees. In addition, a minimum of two visual thresholds differing by at least 0.5 log

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unit were used to quantitate the depth and slopes of visual field defects.

The following criteria were used for determining progression of visual field loss: first, a worsening of existing defects (either deeper or larger) or second, a development of new defects. The visual fields and patients were evaluated carefully to ensure that progression of glaucomatous change was not due to either preretinal factors, such as pupil size and progression of cataracts, or retinal factors, such as macular disease or optic atrophy.

RESULTS

On one year follow-up Goldmann perimetry, all 65 patients (126 eyes) still had classic nerve fiber bundle defects. The distribution of visual field defects for 1982 can be seen in Table 1.

During the one year interim, 53% of eyes had adequate intraocular pressure control and showed similar visual field defects to the prior study. In contrast, 47% of eyes demonstrated clearcut evidence of progression of visual field loss. Of these, 7% were due to progression of cataracts and 40% due to progression of glaucoma. Table 1 also shows the distribution of visual field defects from the two consecutive years.

Of the 40% of eyes demonstrating progression of visual field loss from glaucoma, one-fourth showed only mild progression, i.e., on the same visual threshold, one-half showed moderate progression, and one-fourth showed severe progression, i.e., constricted an entire 0.5 log unit.

The chart review also revealed that 21% of eyes had received an increase in their ocular hypotensive regimen during the last year. These therapeutic changes were made because of presumed inadequate control based solely on intraocular pressure measurements. However, over 50% of these eyes revealed no evidence of progression of visual field loss on follow-up perimetry.

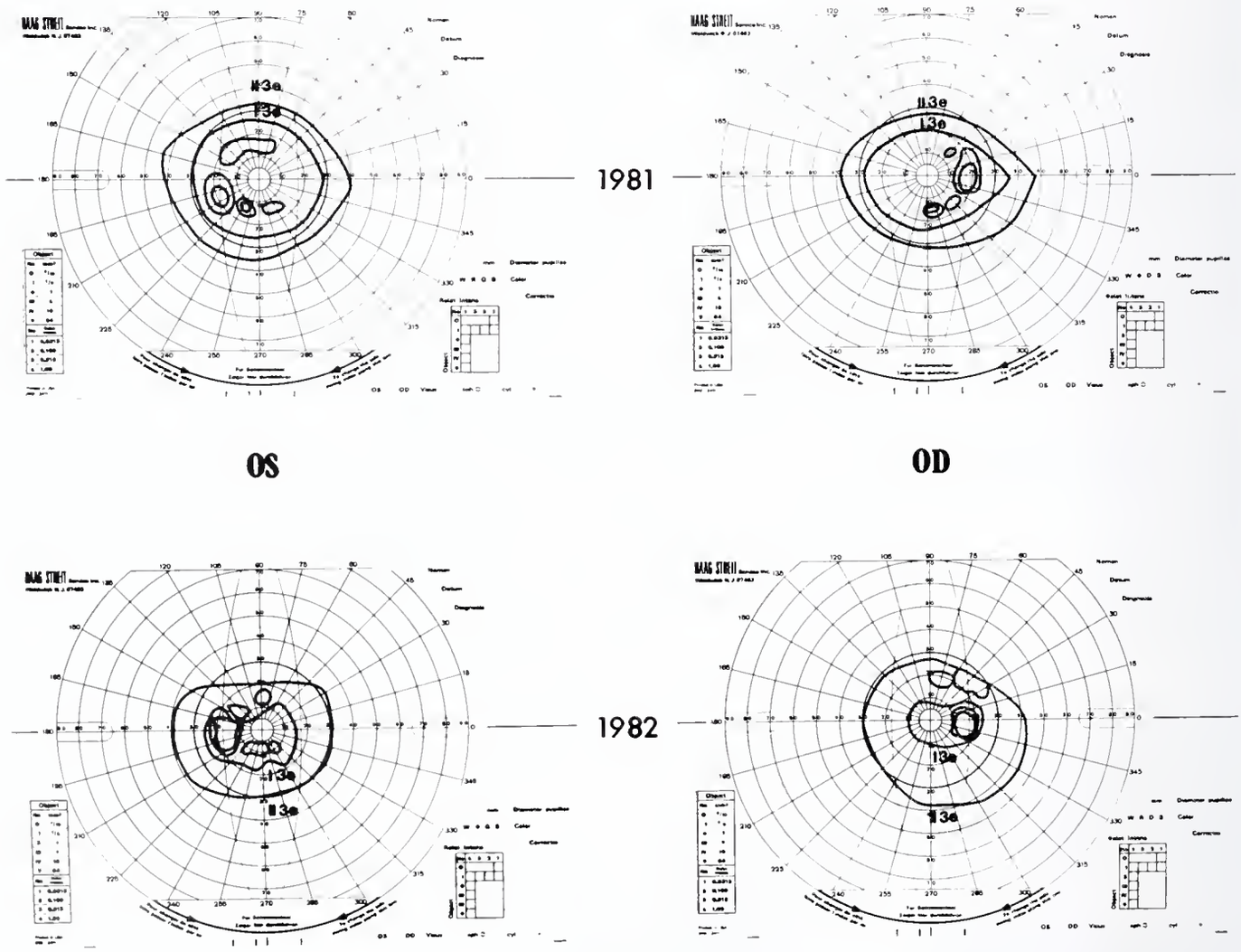


Figure 1.
Progression of visual field loss in an 86-year-old black male. From 1981 to 1982, the right visual field demonstrated marked peripheral constriction of the I3e target and development of a superior arcuate scotoma with the II3e target. During the same interim, the left visual field showed significant superior constriction with enlargement of the superior arcuate scotoma to the blind spot and enlargement of the inferior paracentral scotomas to form an arcuate scotoma with the I3e target.

DISCUSSION

The Armaly-Drance technique for glaucoma screening is an accurate and rapid method for determining whether a glaucomatous visual field defect is present. The prior study[1] clearly demonstrated its superiority in screening over traditional kinetic visual field testing. However, once the diagnosis of glaucoma is made, quantification of the depth and boundary of scotomas at different visual thresholds is essential for comparing subsequent visual fields and in deciding if the loss of visual function has progressed.

TABLE 1
DISTRIBUTION OF VF DEFECTS

	% of Pts. '81	% of Pts. '82
Paracentral scotoma	93	94
Seidel scotoma	69	58
N/S BS abnormality	61	58
Peripheral constriction	55	77
Arcuate scotoma	43	65
Bjerrum scotoma	30	17
Nasal step	22	23
Temporal step	7	8

Table 1 shows that the incidence of paracentral scotomas, non-specific blind spot abnormalities, nasal steps, and temporal steps have remained essentially unchanged. These findings suggest a high degree of reproduceability from one year to the next.

However, there are dramatic changes in the incidence of non-specific peripheral constriction and arcuate scotomas, both of which increased by 22%. These are two of the most common types of progression seen in glaucomatous visual fields and are exemplified in Figure 1. This change in the distribution of visual field defects clearly reflects the glaucomatous progression found in 40% of this study's patients. Thus, quantitated perimetric visual fields are extremely sensitive for detecting progressive glaucomatous damage.

A 40% progression rate seems unusually high. However, in a series of 40 patients with primary open angle glaucoma, Norell and Granstrom[2] reported that 45% developed marked progression of their visual field defects over a two year period despite medical therapy.

Progression of glaucoma during medical therapy has traditionally been managed by prescribing more potent, and more toxic, drugs. In recent years, however, it has become obvious that the most important cause for treatment failure, i.e., progression of the disease, is noncompliance with prescribed medical therapy. Although it was not the expressed purpose of this study to evaluate noncompliance, numerous charts documented patient noncompliance with ocular hypotensive therapy.

The most common forms of documented noncompliance are failure to take medication and improper time intervals when using medication. When interviewed, 28% to 58% of patients admitted incorrect usage of their medications.[3-6] Using medication monitors, Norell and Granstrom[2] reported 41% of patients omit at least 10% of prescribed pilocarpine treatments, and Kass[7] reported that the mean dosage of pilocarpine was 2.6 drops per eye per day.

Kass and co-workers[8] noted that more than 57% of eyedrop treatments prescribed four times daily are administered at intervals of less than five hours or more than seven hours. Furthermore, over 20% of patients instilled three or more drops per eye per treatment. Thus, there is a great need to instruct patients not only on proper time spacing but also on proper technique of eyedrop administration.[9]

Another important factor affecting compliance is the patient's knowledge of his illness and treatment. Numerous studies[3-5] document that patients who are unaware of the nature of their disease, i.e., that blindness was inevitable in the natural history of glaucoma, tended to use their medicines improperly. Additionally, patients with normal vision were more likely to neglect their medications than patients with visual impairment. Patient education programs based not only on teaching about the nature of the disease, but also on "tailoring" or integrating the drug regimen into the patient's daily life have proven effective in altering medication behavior, causing a substantial reduction of missed doses and more regular spacing between the doses taken.[10]

This study also showed that in over 50% of the cases where medical therapy was increased solely on the basis of intraocular pressure measurements, there was no evidence of progression of visual damage on follow-up perimetry. Quantitated perimetry is an extremely sensitive tool for evaluating progression of visual field damage. It's availability should obviate the casual decision to increase medical therapy based solely on the level of an isolated intraocular pressure measurement.

SUMMARY/CONCLUSION

In summary, quantitated Goldmann perimetry from two consecutive years were evaluated in 65 patients with glaucoma. On one year follow-up, all 65 patients (126 eyes) still had classic nerve fiber bundle defects. With respect to progression of visual field damage, 53% had stabilized, 47% had progressed, 7% from progression of cataracts, and 40% from progression of glaucoma. This glaucomatous progression was reflected in a 22% increase in the incidence of peripheral constriction and arcuate scotomas. This study reaffirms quantitated perimetry not only as highly reproduceable, but also as extremely sensitive for detecting progression of glaucoma.

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Current Concepts
In the Creation and Care of Ostomies in Children

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The placement of an ostomy in an infant or a young child presents unique problems because of size, subsequent growth and sometimes the primary disease process. We have reviewed a 3½ year experience with 319 ostomies and have minimized the complications by an ongoing revision of both the creation and care of the stomas. The evolved principles of construction and subsequent management of the children's stomas are delineated.

GASTROSTOMY

Two hundred and two gastrostomies were performed. The indications were: congenital anomalies (esophageal atresia, duodenal atresia, proximal jujunal atresia, gastroschisis)—120; necrotizing enterocolitis—14; retrieval line for esophageal reflux—52; and traumatic injuries to the esophagus—1. Gastrostomy was used in these procedures either for alimentation, particularly for constant infusion, or for prolonged gastric decompression.

The lower esophageal sphincter in infancy is often incompetent, and therefore, gastroesophageal reflux should be excluded before gastrostomy. Technical considerations include: 1) placement not too near the rib margin, the incision, another stoma, or the abdominal defect of gastroschisis or omphalocele; 2) the Pezzer catheter should be no greater in diameter than the thickness of the abdominal wall through which it is placed; 3) the entrance of the catheter into the stomach is at the confluence of the right and left gastroepiploic vessels to place the tube at the mid-greater curvature to prevent tenting of the pylorus, pylorospasm, or partial obstruction by the bulb. The Pezzer catheter is preferred since it is less likely to intussuscept, it is flatter, and therefore, less likely to erode the abdominal wall; it does not decrease the gastric volume as much as a balloon catheter; and the lumen per French size is larger.

Stamm described his gastrostomy technique in 1894.[1] Our technique is as follows. Two concentric purse string sutures of 4-0 Dexon® are placed. The second is 2 mm peripheral to the first and enters 180 degrees opposite to the first

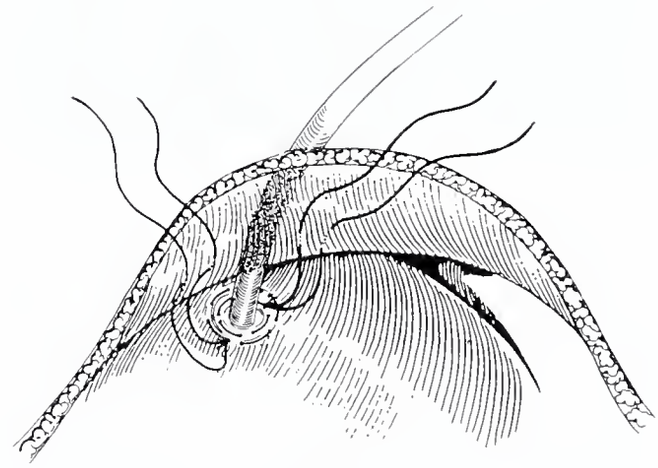


Figure 1.
A gastrostomy is created with two concentric purse string sutures which then secure the stomach to the abdominal wall.

(Figure 1) and both are used to tack the stomach to the abdominal wall. The gastric and abdominal incision should be approximately one-half the length in millimeters of the French size of the chosen catheter. The extraperitoneal technique of State[2] is useful if there is a small stomach and a closed costal arch. We have used transanastomotic simultaneous gastrostomy and feeding jejunostomy in 15 newborns without difficulty until recently,[3] but the most recent tube perforated the distal jejunum (Figures 2, 3). We have

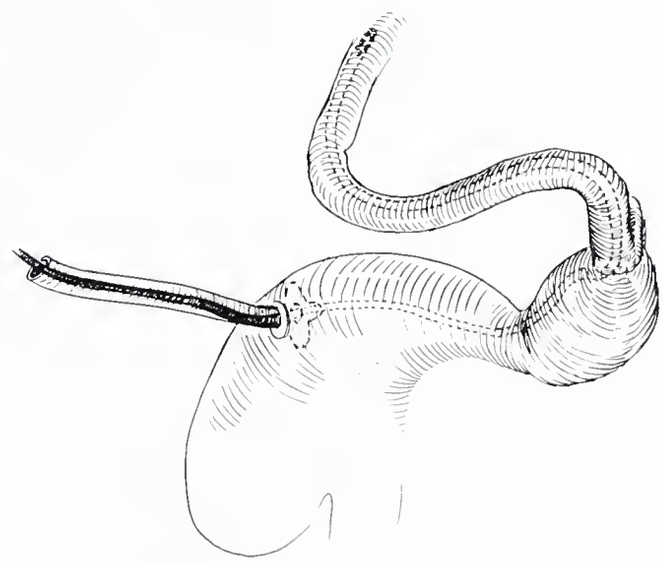


Figure 2.
A silastic feeding tube may be utilized to deliver transanastomotic feedings in high duodenal or intestinal obstructions.

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Figure 3.
A silastic feeding tube perforated the intestine of a neonate with duodenal atresia.

used the endoscopic technique described by Gauderer and Ponsky,[4] for two gastrostomies, but both became infected, perhaps secondary to insufflation of gastric contents into the abdominal wall.

The tube is marked at the skin level to aid in early recognition of bulb intussusception. Even minor migration of the tube into the stomach will cause pyloric obstruction. Until the stomal site becomes stable, a Stomahesive®* plate as well as Karaya paste to prevent leakage and a nipple

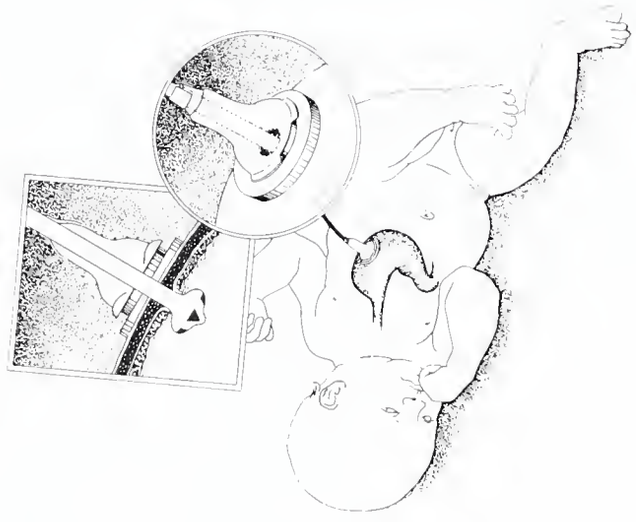


Figure 4.
The tube may be held in position with a nipple which has had a small hole placed in the tip.

to aid in fixation of the tube is used (Figure 4). Excessive tension on the nipple enlarges the hole and creates a difficult problem with leakage.

The tube is flushed with water after each use. We change the tube every 3 months. Prior to a tube change, the child is not fed for 2-3 hours. The tube is extracted and a well-lubricated catheter is directed both medially and superiorly avoiding inadvertent dislodgement.

Filiforms and followers[5] or percutaneous guide wires and dilators into an air filled stomach,[6] have been useful to reestablish defunct stomal sites. Should a Pezzer become inadvertently removed in the early postoperative period, it is replaced by a slightly smaller diameter Foley catheter. Gentle inflation and withdrawal to the abdominal wall prevents the catastrophic complication of esophageal or duodenal rupture.[7] If there is any problem replacing the tube and gastrostomy is still required, surgical replacement should be utilized. The Foley catheter should be replaced with a Pezzer catheter in 3 weeks. The serosa-to-peritoneal approximation of Stamm's technique may be responsible for the leak and dislodgement rate reported in some series,[7] and therefore, we make no attempt to create a serosal tunnel.

If the tube becomes inadvertently dislodged, the parents must return the child within a 6-8 hour "golden period". The bulb of the catheter is removed and the shaft placed into the gastric lumen to aid reinsertion during that travel interval. When a tube is no longer required, the stomach should be empty for a 2-3 hour period. A Benzoin-soaked cottonball is placed over the stomal opening and secured with an elastic bandage.** The majority close spontaneously but a persistent gastrocutaneous fistula occasionally occurs. Silver nitrate cauterization is often sufficient. Injection of the gastrostomy exit site with Xylocaine followed by cauterization with a battery powered electorcautery similar to Ducharme and coworkers' technique[8] has been successful in two cases. Surgical closure as described by Bishop has been necessary in two cases.[9] Many times granulation tissue around the gastrostomy site is thought to be infection and even treated with antibiotics. Silver nitrate is effective in control. Peristomal excoriation may respond to replacement with a smaller catheter and placement of a Stomahesive plate. Severe excoriation may respond to an antacid paste.

Complications occurred in 37 patients, a complication rate of 18 percent. This rate exceeds the 6 to 16 percent incidence reported in the literature.[7,10,11] However, our complications were usually minor and the incidence is decreasing during evolution of the care techniques. The complications include 12 cases of tube displacement or disruption, nine managed by simple replacement with a Foley catheter. In three cases,

**Elastoplast, Beirsdorf Corporation.

a peritoneal leak resulted, two during replacement in the early postoperative period and one when a Foley catheter was inflated within the abdominal wall at a referring institution. Mucosal prolapse occurred in one case and was managed successfully by a peristomal suture. Gastrocutaneous fistulae—a leak for more than 5 days—were managed by silver nitrate cautery twice, electrocautery twice, and operation twice. Bulb intussusception occurred in three cases. Seven cases of intussusception of Foley catheters placed elsewhere were seen during this period. Three significant exit site or incisional infections, two after percutaneous placement of gastrostomy occurred. There were 20 cases of excess granulation tissue. There were two significant cases of peristomal excoriation. Only five complications required reoperation or extension of the hospital stay, a 2.5 percent rate of major complications.

ENTEROSTOMY

Fifty-six enterostomies were performed. The indications were: biliary atresia—18; necrotizing enterocolitis—16; intestinal atresia—4; trauma—5; intussusception—5; and others—8. Needle catheter jejunostomy[12,13] has not been utilized in infants but has been used in three older patients without problems.

Placement of the stoma should be determined, when possible, preoperatively, with the location of the main incision, position of a belt, abdominal creases or areas of bending, the number of stomas, normal obstacles such as the iliac spine, rib margin, pubis, and umbilicus, as well as future growth and activity of the patient being considered. The optimal location is usually on a diagonal between the umbilicus and the anteriosuperior iliac spine, approximately 40 percent from the umbilicus to the iliac spine. The stoma should be placed at least the width of the seal ring from the incision (Figure 5). A core of abdominal wall is removed with the opening approximately the size of normal bowel for that child. If bowel is greatly dilated, the bowel may be reduced by a purse string suture. The bowel is everted and sutured using a 3 point fixation technique[14] at the subcutaneous level. Multiple seromuscular to fascial sutures are placed to prevent prolapse and peristomal herniation. When large skip areas exist in necrotizing enterocolitis, then short gut would result from resection, multiple enterostomies should be used (Figure 6). The stoma for portoenterostomy should be placed on the left so

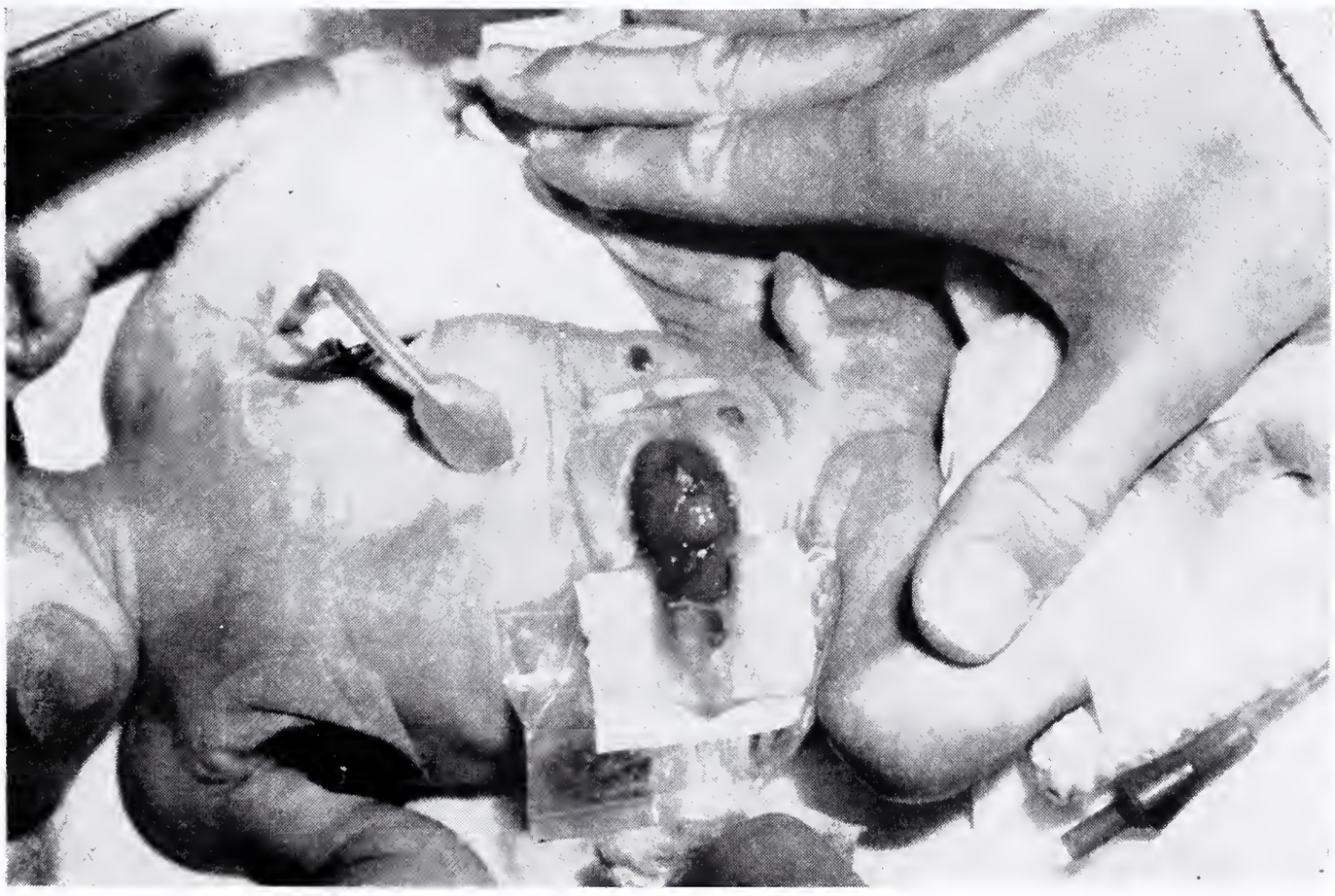


Figure 5.
A Mikulicz's enterostomy near, but not encroaching on, the abdominal incision. Note the adhesive disc mark just touches the incision.

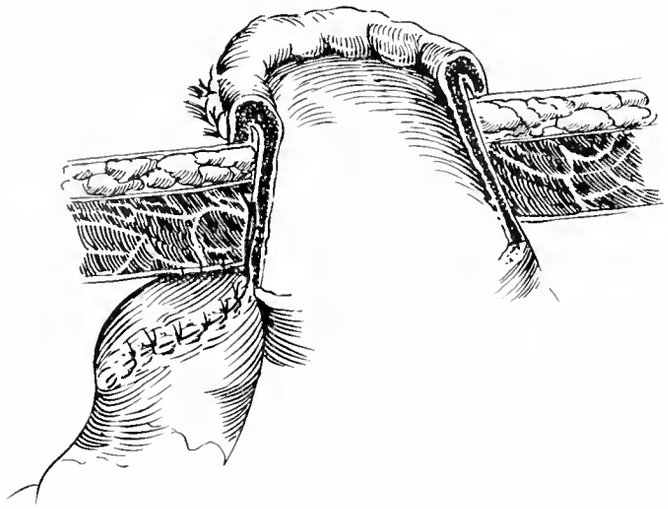


Figure 6.
A thousand gram male premature infant had nine stomata created to preserve bowel length after necrotizing enterocolitis.

subsequent hepatomegaly will not encroach on the lumen. End ostomies with the distal end of the bowel oversewn and placed in the peristomal subcutaneous space eases localization at the time of closure (Figure 7). This creates a Hartmann-like stoma.[15] Continent ileostomy should not be done during childhood.[16]

A Mikulicz enterostomy is created in a similar fashion to the end stoma when there is gross contamination or distal obstruction. Closure of the Mikulicz enterostomy is performed by placement of a spur crushing clamp and subsequent closure of the antimesenteric border with fascial approximation so the closure is extraperitoneal but subfascial (Figures 8a, b, c).

The skin around the stoma is cleansed and a plate of Stomahesive® with a hole the same diameter as the stoma cut. A bag one-half centimeter larger than the stoma is placed over the Stomahesive® plate (Figure 9). It may be necessary to size down the appliance as edema resolves over the ensuing 3 to 6 months. The clamp is placed caudad in the older child who is ambulant or placed laterally in the infant.

In 56 cases there were a total of 20 complications —a 36 percent incidence. These complications included: prolapse—2; infection—2; bleeding—7 (all after portoenterostomy); excoriation—5; malabsorption (secondary to short gut)—2; and peristomal hernia—2 (both biliary atresia). Both complications of prolapse were managed with a peristomal suture after reduction. At least in the adult, complications appear to be more frequent

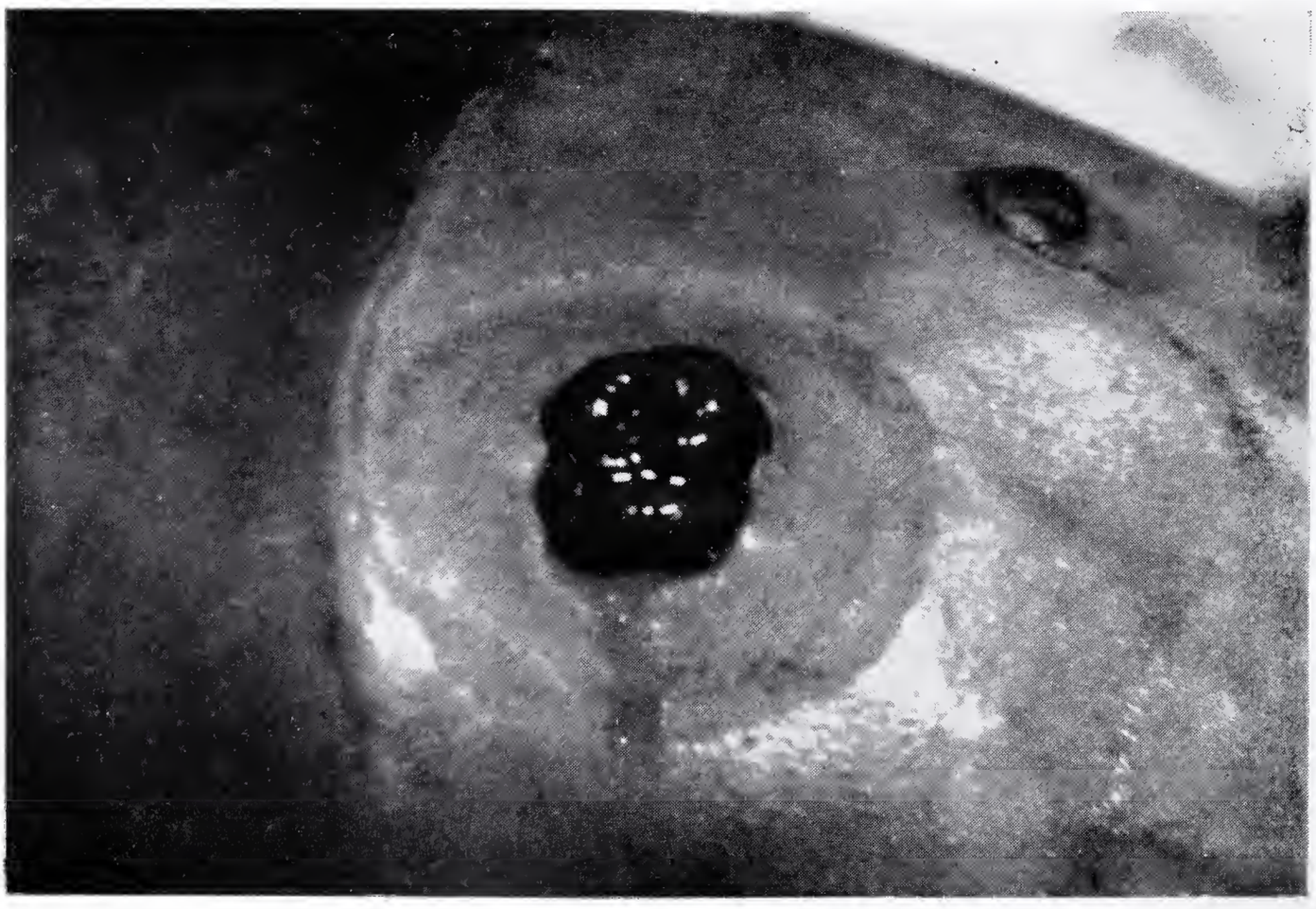


Figure 7.
An end stoma is created with a 3 point fixation technique. The distal bowel is identified with permanent sutures placed in the subcutaneous position.

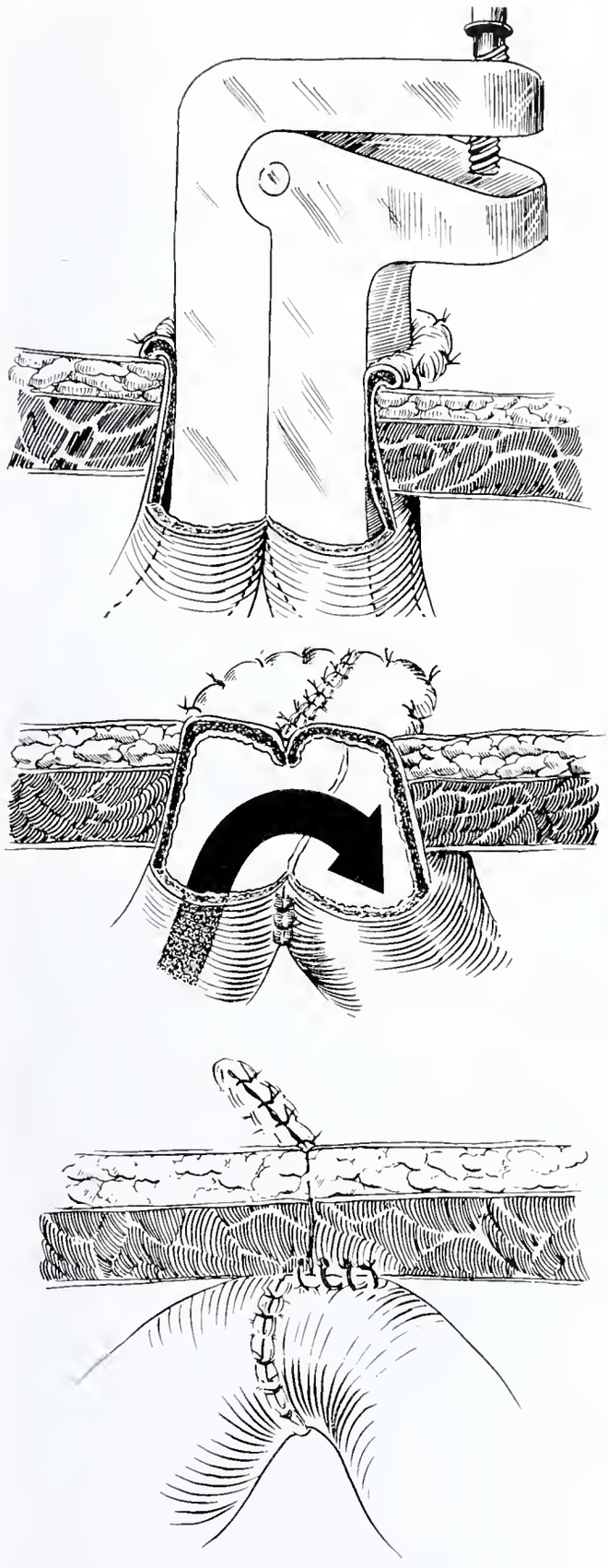


Figure 8a, b, c.
A spur crushing clamp is placed on a Mikulicz's stoma. Aborad peristalsis through the distal bowel is then possible. The closure is made in a subfascial extraperitoneal position.

following emergency creation of stomata.[17] Accordingly, greater attention to detail should be used in the emergency situation. Peristomal excoriation is most often due to improper placement or creation of the stoma or subsequently from poor maintenance of the stomal appliance.

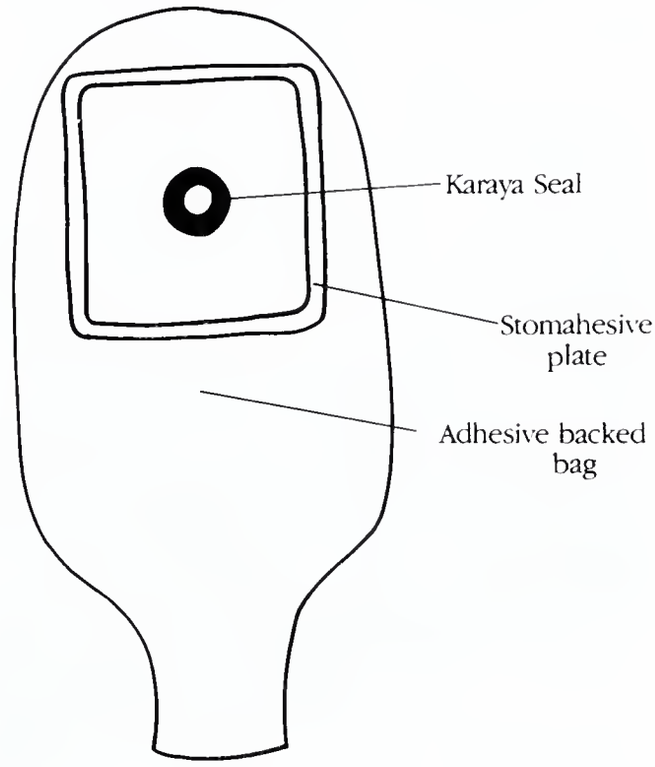


Figure 9.
For both enterostomy and colostomy a combination of a Stomahesive® plate, Karaya seal ring, and adhesive backed bag are used to prevent skin complications of childhood stomas.

Severe peristomal excoriation may be managed by application of cholestyramine ointment.[18] If the stoma is improperly placed or persistent problems exist, contrast examination to define the problem followed by transperitoneal relocation is useful.[19] High volume salt depletion ileostomy may occur[20] (Figure 10), and is more likely if more than 30 cm of ileum have been resected. Evaluation should exclude stenosis or recurrent disease. The parent is less likely to recognize enteritis in a child with a stoma and should be warned of the insidious loss of excess salt and water. Additional fluid, salt, loperamide, or codeine are useful in management.[1]

COLOSTOMY

Sixty-one colostomies were performed. The indications were: imperforate anus—21; Hirschsprung's disease—18; trauma—7; necrotizing enterocolitis—3; tumor—3; colon atresia—2; and others—7. The decision for stomal position is guided by the same considerations as for enterostomy. In addition, a mucous fistula is excluded from the area of the bag. The bag will not adhere to the skin on which mucous is deposited and excoria-



Figure 10.
Severe excoriation in the premature who had an enterostomy performed at another hospital because the stoma has been placed too low and lateral.

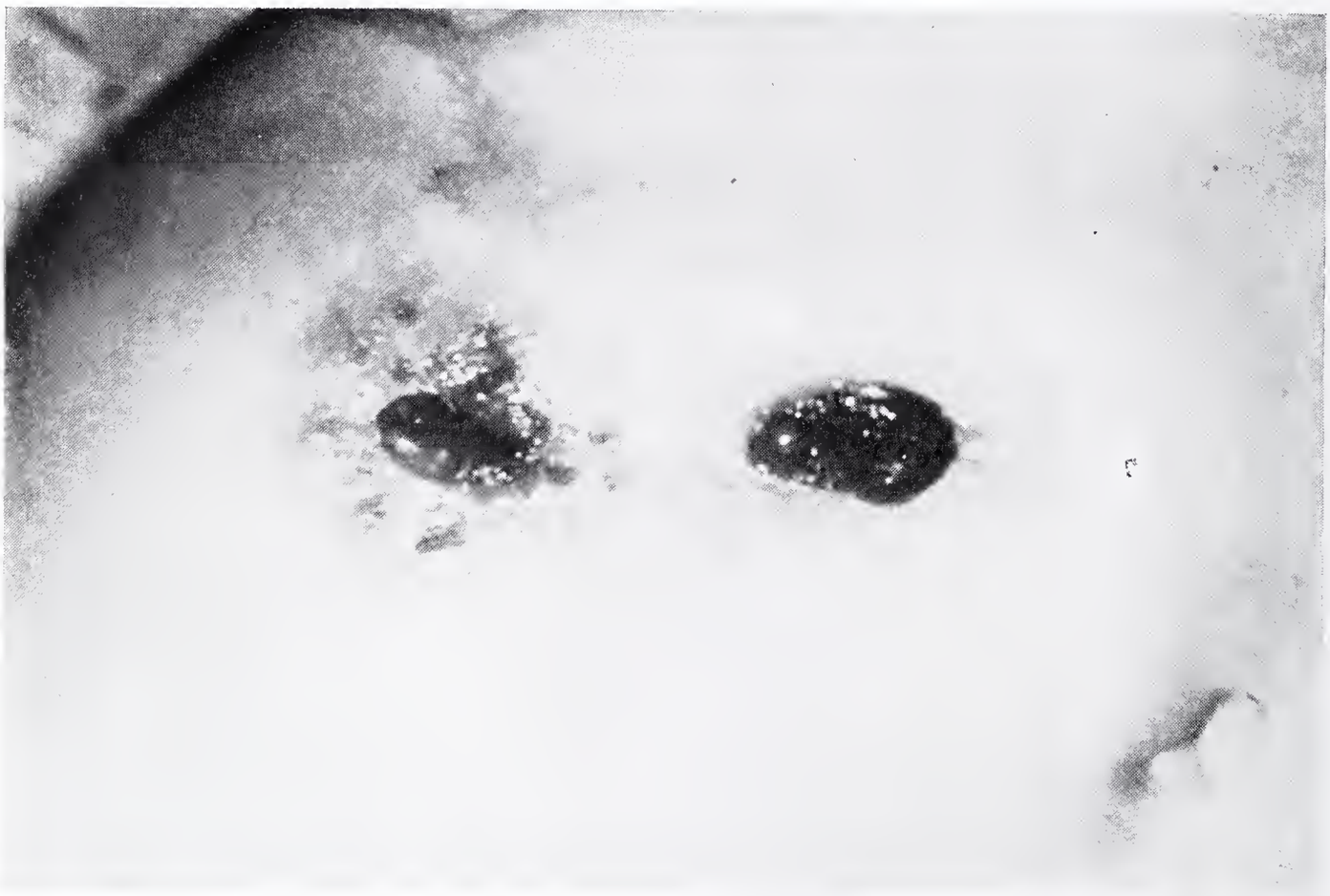


Figure 11.
A colostomy and mucous fistula in which the mucous fistula has been placed too near the end stoma. As a result, proper seal cannot be achieved with the appliance and excoriation results.

tion results (Figure 11). All patients were placed on preoperative antibiotics. Oral antibiotics[21] were used in combination with intravenous cephalosporin or aminoglycoside and clindamycin in elective cases. Povidone iodine irrigation of the colon was used in addition. Where applicable, as in Hirschsprung's disease,[22] the bowel was manually decompressed as much as possible. All emergent cases received preoperative intravenous antibiotics which were then continued for two doses after operation. A rather constant 16 percent major complication rate following childhood colostomy is found in the literature.[23, 24, 25] The need for reoperation after colostomy is a similar figure.[24]

A core of abdominal wall is removed from the left lower quadrant and the bowel delivered into the incision for Hirschsprung's disease. A point approximately 3 cm proximal to the narrowed bowel is biopsied and ganglion cells verified (Figures 12, 13). A stapler is used to divide the bowel. The mucous fistula is fashioned just above the pubis. Aganglionic bowel is removed and submitted to pathology (Figure 14). The colon is sutured to the abdominal wall to obliterate the

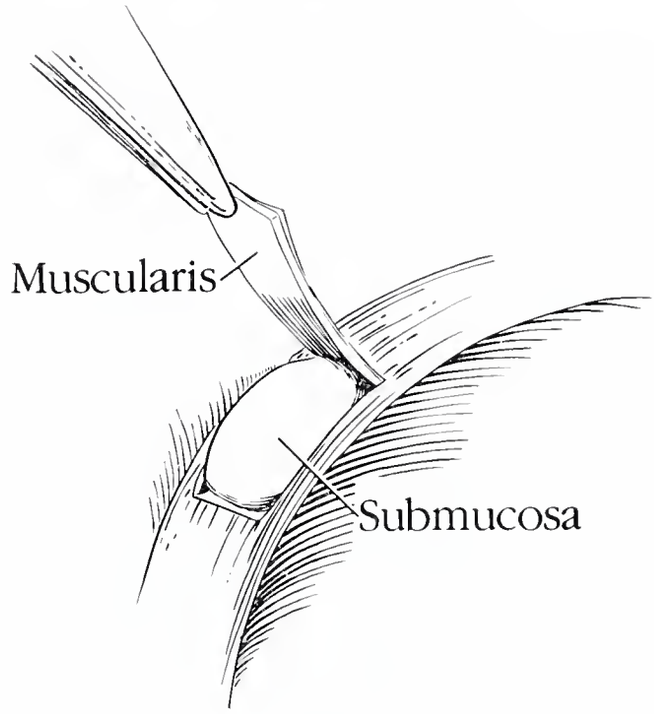


Figure 12.
A seromuscular biopsy is raised from the submucosa to obtain a frozen section and verify ganglion cells at the time of operation for colostomy for Hirschsprung's disease.



Figure 13.
The point which should be chosen for biopsy begins 3 cm into the dilated part above the narrowed distal bowel. The seromuscular biopsy should extend for 2 to 3 cm proximal for verification of ganglion cells.

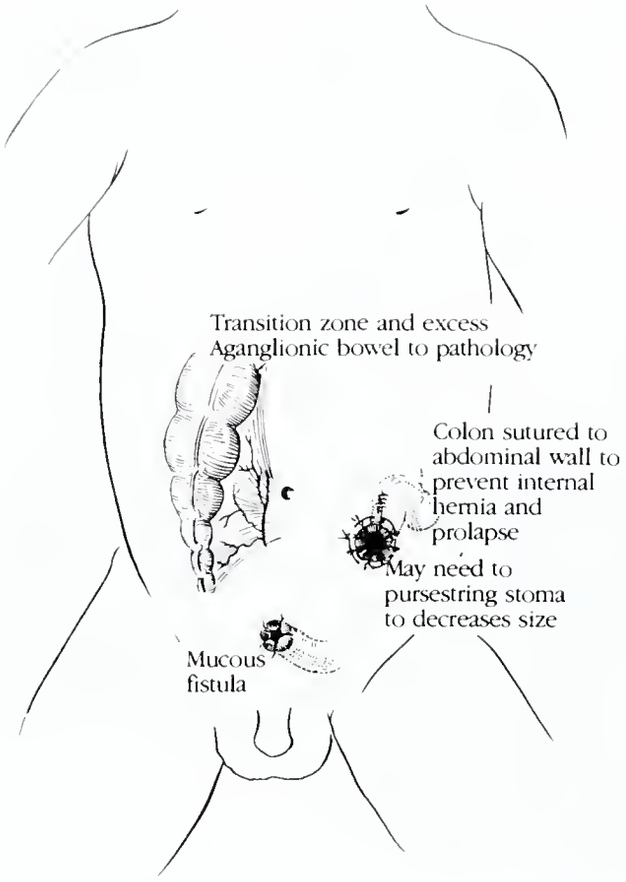


Figure 14.
Line diagram illustrating the usual technique and creation of colostomy for Hirschsprung's disease.

lateral hernia potential. The stoma may be purse stringed to almost obliterate the lumen. After a few days, the hypertrophy and edema rapidly resolve and a patent stoma which is not excessive in size results. The bowel is matured similar to enterostomy, but the nipple is minimal. Appliance care is the same as for enterostomy. The two stomata are included in the incision at the time of definitive repair and the functional stoma is pulled through. For colonic atresia, we have utilized a Mikulicz's colostomy. A significant portion of the colon may be absent, and thus, preservation of length seems indicated. There is little stimulus for distal bowel growth and early application of a spur crushing clamp can provide this stimulus.

Although some surgeons decry the use of sigmoid colostomy for imperforate anus,[26] many prefer a low sigmoid stoma because of the ease of management and absence of significant diarrhea. For imperforate anus, the sigmoid colon is divided at the peritoneal reflection. The distal bowel is irrigated until the effluent is clear. This small distal pouch is left as a Hartmann pouch. The proximal bowel is managed in the same fashion as Hirschsprung's disease. Fonkalsrud[27] has warned against closure of the distal colon for fear of hyperchloremia. We have not had hyperchloremia, probably because of the small distal pouch. We place the injured colon in a subcutaneous position after some forms of colon trauma (Figure 15). If there is evidence of leak or infection, the skin can be easily opened over the suture line.

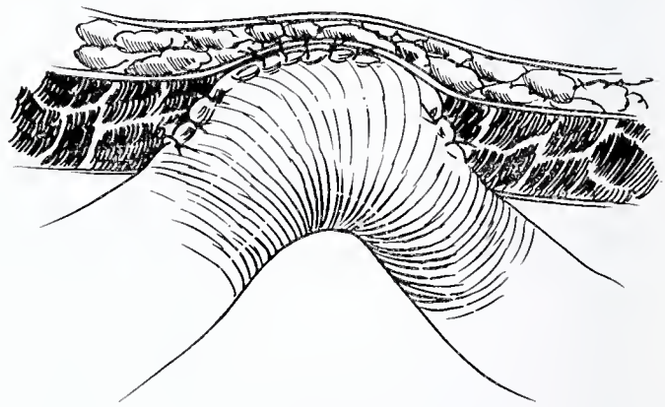


Figure 15.
Colostomy can sometimes be avoided in colon injury by suturing the bowel and placing it in a subcutaneous position.

Prolapse of colostomy is a distressing and untidy complication (Figure 16) which occurs in children with an incidence of 20 to 58 percent.[28,29] There appears to be a lower incidence in sigmoid colostomies, divided colostomies, with immediate stomal maturation, and in those performed for a non-obstructed state. We have had no prolapse of colostomy in 61 cases by utilizing those favored states in construction. In 61 patients, there were seven who developed excoriation, all of brief duration and this is certainly not "universal".[29] Two wound infections required antibiotics or drainage. Stomal stenosis occurred in a child with necrotizing enterocolitis and a questionably viable stoma. Revision was necessary. Parents are warned to look for a narrow caliber stool or "overflow" diarrhea. A paracolostomy hernia developed in one patient and required revision. A total of 11 complications for an 18 percent complication rate occurred. Only two of 61 required revision, a 3 percent incidence of reoperation.

Prior to closure of stoma, clear liquids are given for 2 days. The colon is irrigated with saline. Oral antibiotics are given the day prior to operation. The stomas are perioperatively irrigated with Povidone iodine. Antibiotics are given intravenously. A resection and end-to-end anastomosis using single layer absorbable suture is utilized to restore continuity. Skin is usually closed. We have closed 22 colostomies, 12 done initially at our institution and 10 were done at referring

institutions. Five stomas remain open. The remainder[37] of the stomas were part of a pull-through procedure and were not protected by a proximal colostomy. Protective cecostomy has been advocated by Cywes,[10] but was not utilized. Only one cuff abscess developed after pull-through procedures and that was easily controlled. Wound infection occurred in three patients and one of those developed an incisional hernia. The remainder of colostomy closures were uncomplicated. The complication rate following colostomy closure varies from 15 to 45 percent,[30,31] and 16 and 19 percent had major complications in two series on colostomy closure in children.[24,30] We attribute the 14 percent minor complication rate to adequate bowel preparation. Attention to detail in the creation and subsequent care of ostomies will result in long-term satisfactory function in the majority of patients. Most complications can be prevented and the others easily managed by awareness of problems. In particular, both enterostomy and colostomy complications have been minimized in the child by formation of end stomas. These stomas have been purse stringed down to a size which does not require a large fascial opening.

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Figure 16.
Extensive prolapse of a distal stoma in a child with Hirschsprung's disease in which a left transverse colostomy was performed.

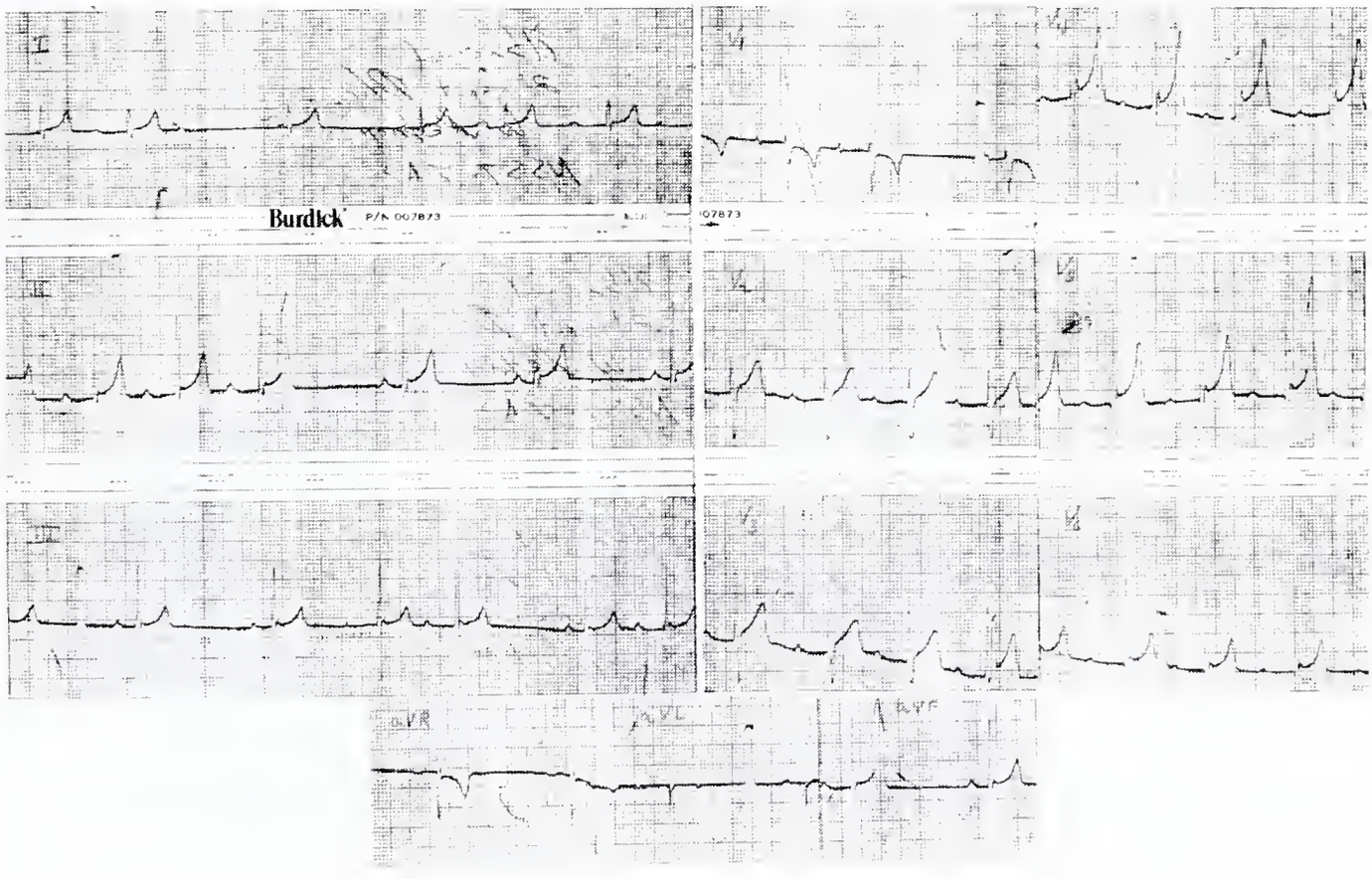
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 218)

HISTORY: J. B. is a 14-year-old black male who presented for a routine physical examination prior to entering a basketball camp. His B/P was 110/68. His physical examination was completely within normal limits with exception of an irregularly irregular rhythm noted on cardiac examination. No murmurs, clicks, or gallop rhythms were noted. He denied any symptomatology. An ECG was obtained. What do you think about this trace?



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Office Orthopaedics

TETANUS

I. Leighton Millard, M.D.*

TETANUS

I. Epidemiology
II. Pathogenesis and Pathophysiology
III. Clinical Features
 Generalized Tetanus
 Complications of Tetanus
 Unusual forms of Tetanus
 Cephalic Tetanus
 Localized Tetanus
IV. Laboratory Findings
V. Differential Diagnosis
VI. Management of Established Tetanus
 General Measures
 Antitoxin
 Control of Muscular Spasms and Rigidity
 Relaxants
 Curarization
 Control of Sympathetic Overactivity
 Antibiotic Treatment
 Eradication of the Infected Site
VII. Prevention
 Positive Immunization of Infants
 Primary Immunization of Adults
 Management of Wounds
 Promptness of Response to Booster Injection of Toxoid

I. Epidemiology

Clinical tetanus is an uncommon, acute, life threatening disease caused by Clostridium tetani. In 1980, 95 tetanus cases were reported from 33 states. In a four year span (1980-1983) in Arkansas, a total of twelve cases of tetanus were reported; ten of these were over 60 (61-80), one was 58 and one was 23 years of age. In other years 100 to 150 cases have been reported in the United States. Principally these cases occurred in unimmunized or partially immunized individuals. In developing countries, tetanus causes an estimated 1,000,000 deaths annually, almost half of these in newborns. A recent increase in tetanus incidence has been attributed to the growing numbers of "skin popper" drug addicts, who inject substances subcutaneously at multiple sites. Tetanus occurs up to 10 times more frequently in people 60 years or older.

II. Pathogenesis and Pathophysiology

Clostridium tetani is an anaerobic gram positive bacillus commonly found in the soil, in the intestines of animals, and occasionally in human feces. It exists in spore form and after finding its way through the skin or eardrum or into the umbilical cord, changes to the vegetative form. In about 20% of the cases, no wound of entry is ever identified. In the vegetative state, C. tetani produces at least two distinct exotoxins: tetanolysin, a hemolysin that has no importance in human pathophysiology; and tetanospasmin, a neurotoxin.

Generalized rigidity and intermittent intense muscle spasms result from the action of only very small amounts of this tetanospasmin. It has been shown that 1.0 mgm is capable of killing 50 to 70 million mice. The toxin acts principally at the spinal cord level, altering the reflex arc by suppressing internuncial inhibition. For example, a biceps contraction will be accompanied by a triceps contraction, producing a spasm. The characteristic features of clinical tetanus are determined by the relative strengths of the opposing muscles: the masseter overcoming the digastricus and mylohyoid; the lower extremity extensors overpowering the flexors; and the upper extremity flexors overcoming the extensors (See Figure 1).

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Nuchal rigidity occurs because a selective permeability for the toxin is present in the fourth ventricle.

III. Clinical Features

The incubation period between colonization and onset of symptoms ranges from one to fifty-five days. Over 80% of cases show symptoms within fourteen days. In patients under age fifty, the length of incubation is an important sign of prognosis: a mortality rate of almost 100% is associated with one or two days incubation, but drops to 35 or 40% when the incubation period is over 10 days.

Generalized Tetanus

The usual initial symptoms are pain and stiffness in the muscles of the back, neck, thighs and abdomen. The hallmark of tetanus is trismus, difficulty in opening the mouth. In fact, this is the first symptom in 5% of patients. The deep tendon reflexes are hyperactive with a flexor plantar reponse. Trismus and facial muscle spasms produce a classic sneering expression known as risus sardonicus. As the disease progresses, violent muscle spasms occur but the patient remains conscious. Esophageal muscle spasms interfere with swallowing and cause aspiration of secretions. The period between onset and generalized spasms is 72 hours or less in 60% of the patients. The shorter the onset time, the poorer the prognosis. Sudden stimuli of noise, light, or sudden movement can precipitate a tonic seizure and result in hypoxia and respiratory arrest because of involvement of diaphragmatic, intercostal, gluteal and/or laryngeal muscles. Fever may be caused by marked muscle rigidity and/or sympathetic hyperactivity. Hypertension, hypotension, tachycardia, arrhythmia, sweating and tachypnea have been noted to occur singly or in varying combinations. These appear to be due to toxic effects on the sympathetic nervous system. The patients who have survived generalized tetanus have required respiratory assistance for two to four weeks and hospitalization for five to eight weeks.

Complications of Tetanus

The major complications are respiratory arrest, pneumonia, arrhythmia, pulmonary emboli, cardiomyopathy and fractures of thoracic vertebrae. A late (and rare) problem is myositis ossificans in muscles of the elbow, hip and knee joints.

Unusual Forms of Tetanus

Cephalic Tetanus

This is a unique form of tetanus that results from the effects that the toxin of C. tetani has on



Figure 1 Spasms in a wounded soldier with tetanus were illustrated in this drawing by the Scottish surgeon and anatomist Sir Charles Bell in his book *The Anatomy and Philosophy of Expression*, published in 1832. The classic signs of tetanus—risus sardonicus, trismus, opisthotonus, flexion of the upper extremities and extension of the lower extremities—are shown.

the brainstem from introduction of spores into a head or neck wound, an eye wound, or in otitis media, the muscles of the jaw, eye, face, tongue and pharynx are involved. Trismus is usually the first clinical sign with peripheral facial paralysis, ophthalmoplegias, and cranial nerve palsies following in varying order.

Penetrating eye wounds may produce ophthalmoplegic tetanus with prominent third nerve palsy (ptosis and pupillary paralysis). If untreated, these forms usually progress to generalized tetanus.

Localized Tetanus

This form is characterized by intermittent, painful spasms, often of recruitment type, that are confined to one limb. Repeated volitional muscle contractions produce increased and more widespread spasm of muscles that are close to a wound contaminated by C. tetani. This probably occurs only in partly immunized people or when the wound has only a very few C. tetani bacteria.

IV. Laboratory Findings

Blood counts, chemistries and spinal fluid tests are normal. The diagnosis must be made solely on clinical findings, since C. tetani is isolated by culture in only 30% of cases. The organism is very sensitive to oxygen, making culture possible only when special techniques are employed.

V. Differential Diagnosis

The only disease that resembles fully developed, generalized tetanus is strychnine poisoning. When trismus is the only clinical finding (remember 20% of cases have no entry wound visible) a greater problem in diagnosis is encountered. Trismus may be present in patients with encephalitis (but they are not fully conscious), intraoral disease (jaw infections), trichinosis (which has other features) and hepatic encephalopathy (liver disease is usually obvious). Hysterical trismus does not show progression to generalized spasms. A reaction to phenothiazines (grimacing syndrome) may mimic the trismus of tetanus, but the spasms are more intermittent and can be overcome voluntarily. Also the pterygoid muscles may be alternately involved producing a mouth opening and tongue protruding grimace (never seen in tetanus). This drug reaction is easily reversed by use of IV dyphenhydramine (Benadryl).

VI. Management of Established Tetanus

General Measures

Treatment is directed at three levels and in an orderly manner in an Intensive Care Unit, with avoidance of external stimuli as much as possible. IV fluid and Electrolyte replacement and a urinary catheter should be instituted. Measures are then taken to prevent muscle spasms and respiratory complications, neutralize circulating toxins and eliminate the source of the toxin. As soon as the danger of aspiration has been reduced by introduction of a soft cuff endotracheal tube or tracheostomy, tube feeding can be started. In severe or prolonged cases IV hyperalimentation or feeding gastrostomy may be required.

Antitoxin

Tetanus antitoxin will apparently not neutralize any toxin already bound to the Central Nervous System, but will neutralize any toxin still circulating. Human tetanus immune globulin is better tolerated by the patient and has a longer half-life (not eliminated by the body's immune system). It should be given at several intramuscular sites as a single total dose of 3,000 to 5,000 units. The immune globulin should not be given IV. The equine antitoxin (100,000 units) can be used if the patient has no sensitivity history and skin testing is negative. With the equine type, one-half of the dose is given IM and one-half slowly IV.

Control of Muscular Spasms and Rigidity

Muscle relaxants are a must in tetanus, with bolstering by sedation to decrease responsiveness to external stimuli.

Relaxants

Diazepam (Valium) acts rapidly to relax muscles and has a sedative effect without producing depression. Forty to 200 mgm IV daily should be used and the total daily dose carefully titrated to the needs of the patient.

Curarization

If Diazepam is not sufficient to control severe spasms, potent neuro-muscular blocking agents such as d-Tubocurarine (6-12 mgm IV every hour) or Pancuronium (0.5 to 2.0 mgm IV every hour) can be used to paralyze the muscles. Controlled mechanical ventilation will be necessary if these agents are used.

Control of Sympathetic Overactivity

Hypertension, tachycardia and sweating can be controlled by the use of a beta-adrenergic blocking drug (propanolol, 0.5 to 1.0 mgm IV every hour). IV morphine may need to be added in some severe cases to control autonomic dysfunction.

Antibiotic Treatment

Antimicrobial agents are of benefit only in

eradicating the vegetative C. tetani from the wound. A total daily dose of twelve million units of penicillin (divided into four equal doses) should be administered intravenously for one week. In the adult penicillin-allergic patient, Tetracycline (1.5 gram IV daily) is a suitable second choice.

Eradication of the Infected Site

Once respiratory and muscular spasm problems are under treatment, wound debridement is carried out to eliminate the source of the toxin production. Thorough irrigation should be carried out and the wound left open. Aerobic and anaerobic cultures should be obtained. Three percent H_2O_2 irrigation should be used intraoperatively and postoperatively.

VII. Prevention

Infants

Infants should receive combined diphtheria and tetanus toxoids at two months of age, with additional doses at four and six months of age. A booster is given at one and one-half years of age and again four years later. At age 16 a booster dose of combined diphtheria toxoid and adult-type tetanus is given. Immunity can be maintained thereafter with booster injections every decade.

Adults

Non-immunized adults should receive two IM doses, one month apart, of alum-precipitated tetanus toxoid followed by a booster dose in one year. Multiple booster doses may cause development of local edema, erythema, pain and fever.

Wound Management

Two-thirds of the cases of tetanus in the United States follow puncture wounds, lacerations or other penetrating trauma. Prompt and thorough debridement is of prime importance in prophylaxis. Antibiotics do not reliably prevent subsequent tetanus (See Figure 2).

Booster Response

Over 90% of previously immunized persons will have protection levels of serum antitoxins (0.01 unit/ml) thirteen years after last booster. A twenty fold rise in antitoxin will occur within one week after a booster shot. Of 855 cases of tetanus in the United States from 1967 to 1971, only one occurred in a person who had received three or more tetanus toxoid injections.

Figure 2. Tetanus Prophylaxis.

Persons with clean minor wounds

No prophylaxis with tetanus toxoid (Td) needed for immediate trauma; tetanus immune globulin (TIG) also not needed.

If individual has not had a complete primary vaccination series, he or she should receive one or more doses of Td to complete this series.

If individual has not had a booster injection of Td in over 10 years, a booster injection should be given to raise the antibody level.

Persons with all other wounds

Td should be given as a booster to those who have had a complete initial immunization series but no Td injection in the preceding five years.

Td should be given to complete the primary vaccination series for those with an uncertain or incomplete vaccination status.

TIG (250 units) should be given to

patients with an uncertain vaccination history;

patients who have received no, or only one, prior dose of Td;

patients whose wounds are more than 24 hours old and who have had two previous doses of Td.

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ANSWER—Electrocardiogram of the Month

DISCUSSION: This is an unusual electrocardiogrom with several interpretative passibilities. The rhythm is irregular in an irregular monner but most QRS complexes have associated P waves. Lead I looks like Mabitz I black with the third QRS complex being a junctional escape beat. Lead II reveals two rates with twa PR intervals with the shortest PR interval being associated with the slowest rate. Most of the V-leads show modest irregularity of the QRS rote with pralonged PR intervols. The interpretation best fitting the clinical setting is to call this mechanism sinus arrhythmia with first and second degree block (Mobitz I) with accasional junctianol escape beats. ST elevation compatible with early repolarization is noted in many leads, an ECG variant aften seen in young black athletes. Other samewhat mare exotic diagnostic choices with respect to the mechonism da exist but entities such as dual AV nodal pathways, SA Wenckebach, etc. are rare and, in this instance, the temptotion to relate these ECG changes to youth and vagal tone is great. The feature editor wishes to thank Dr. Asa Warmack of Hape, Arkansas for his assistance with this month's feoture.



Update on Lyme Disease

P. L. Harris, B.S.*

Lyme disease (LD) is a systemic, tick-borne illness that usually occurs during the summer. It was first recognized in 1975 in Connecticut.[1] With the tick season approaching, public health officials and practitioners should be aware of recent advances in the microbiology, epidemiology, and treatment of this disease.

LD is characterized by a distinctive skin lesion, erythema chronicum migrans (ECM), often accompanied by nonspecific constitutional symptoms, such as fever, headache, myalgias, and arthralgias. ECM begins as a red macule or papule that expands to become an annular lesion, reaching up to 70 cm in diameter.[2] Multiple skin lesions may occur. Some patients subsequently develop arthritic, neurologic, or cardiac complications weeks to months after the initial lesion. The arthritis is intermittent and usually involves large joints. Neurologic manifestations include Bell's palsy, meningoencephalitis, and peripheral neuritis; cardiac manifestations include myocarditis and atrioventricular conduction defects. Patients with the B-cell alloantigen, DR2, often have more severe and frequent late manifestations.

Early epidemiologic work suggested that LD's etiologic agent was transmitted by *Ixodes* ticks; subsequent studies confirmed that the distribution of known U. S. vectors—*I. dammini* ticks in the Northeast and Midwest and *I. pacificus* ticks in the West—parallels the distribution of U. S. cases. In 1982, a spirochete was isolated from an *I. dammini* tick.[3] Subsequently, spirochetes were isolated from ECM skin lesions, blood, and spinal fluid of patients with LD.[4,5] The spirochete has recently been classified taxonomically as a *Borrelia*.[6,7]

LD diagnosis is primarily based on clinical criteria, and in endemic areas, the diagnosis can usually be made based on the characteristic ECM lesion and associated symptoms. However, atypical cases, cases presenting with only late manifestations, or cases occurring outside previously recognized endemic areas may be difficult to diagnose. Several laboratories have developed serologic tests for LD that can aid in the diagnosis. Laboratories at CDC and elsewhere currently use an indirect immunofluorescence assay (IFA) to measure antibodies against the spirochete. A titer of 256 or higher is considered positive, and the IFA appears to be highly specific, although patients with treponemal infections (syphilis, yaws, and pinta) may have false-positive titers. These latter patients have positive treponemal reagin tests, while patients with LD do not. The sensitivity of the LD test varies with the stage of the disease. When only ECM is present, as few as 50% of patients may have positive tests, while with complicated disease (when neurologic, arthritic, or cardiac symptoms are present), almost all patients will have positive tests.[8]

Early treatment with tetracycline, penicillin, or erythromycin was previously shown to shorten the duration of ECM and to prevent or ameliorate late complicated disease. Recently, oral tetracycline 250 mg four times a day for 10 days has been suggested as the preferred therapy for patients with ECM.[9] Longer or higher dose therapy or parenteral penicillin may be necessary for patients with more severe disease. The role of antibiotic therapy for the late arthritic phase of the disease is still being studied.

With the cooperation of state health departments, LD cases for 1980, 1982, and 1983 were reported to CDC. In 1980 and 1982, 226 and 487 cases, respectively, were reported.[10,11] A review of the still incomplete 1983 surveillance data indicates that over 500 cases occurred last year. Whether the increase in number of reported cases is due to increases recognition and interest in the

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disease or to a real increase in the incidence is unclear.

LD has been reported primarily from states in the three recognized endemic areas: the coastal areas of the Northeast (Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island); in the Midwest (Minnesota, Wisconsin); and in the West (California, Nevada, Oregon, Utah). These states are within the known range of recognized tick vectors. Additional isolated cases, clinically compatible with LD, have been reported from states outside the range of *I. dammini* or *I. pacificus:* Arkansas, Florida, Georgia, Indiana, Kentucky, Montana, North Carolina, Tennessee, Texas, and Virginia. For the moment, it may be prudent not to consider these states as endemic until additional cases are identified in these areas. The confirmation of cases in these areas, however, will suggest either previously unrecognized vectors or spread of *Ixodes* ticks to new areas. The recent isolation of the spirochete from *Ambylomma americanum* collected in New Jersey, indicates that ticks other than *Ixodes* may be vectors for LD.[12]

To better define the geographic distribution and the incidence of LD, state and territorial epidemiologists and CDC are collecting information on suspected cases of LD occurring in the United States each year. Health-care providers are encouraged to report suspected cases to appropriate local and state health departments. Serologic testing of sera from suspected cases of LD is available at some state health departments or CDC. All sera should be submitted to the appropriate state health department with patients' clinical histories.

With at least 17 states reporting Lyme disease cases, it is possible for patients to be bitten by an *Ixodes* tick while traveling and develop illness days and miles from the geographic location of the exposure. If physicians in non-endemic areas are not familiar with the clinical presentation of the disease or do not obtain sufficient travel histories from these patients, it is unlikely that appropriate antibiotic therapy will be administered in a timely manner.

Lyme disease is an emerging new public health problem in the United States, with the potential to spread and develop in Arkansas.

The Arkansas Department of Health requests physicians to report any cases or suspected cases of LD. Information regarding epidemiologic, serologic, or clinical aspects of LD can be obtained by contacting the State Epidemiologist of the Department of Health, Little Rock, AR (661-2000).

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Pediatric Update:

Practical Use of Theophylline In Children With Asthma

Thomas G. Wells, M.D., and Gregory L. Kearns, Pharm.D.*

Asthma is a disorder of both large and small airways characterized by reversible obstruction of the tracheobronchial tree. Obstruction to airflow results from bronchospasm, bronchial mucosal edema, and from the production of excessive secretions by the mucous glands lining the respiratory tract. These factors create narrowed airways, which restrict airflow, and result in air trapping, ventilation-perfusion mismatching, hypoxemia, and with severe obstruction, an increasing P_{CO_2} heralding respiratory failure. Several excellent reviews of the clinical presentation and management of childhood asthma have been published recently.[1,2,3]

The pharmacologic management of childhood asthma centers around four major groups of drugs: sympathomimetic agents (e.g., epinephrine, metaproterenol, isoproterenol, albuterol), corticosteroids, cromolyn sodium, and theophylline. Theophylline has been useful in the treatment of asthma primarily as an agent which reverses bronchial wall smooth muscle constriction. Many children with infrequent exacerbations of asthma require only intermittent oral theophylline, while asthmatics with frequent exacerbations may require long-term oral theophylline therapy. Intravenous aminophylline continues to be an important therapeutic modality in hospitalized, acutely ill asthmatics.

Theophylline has a relatively low therapeutic index, with toxic effects often seen with doses only modestly larger than those producing therapeutic effects. Careful monitoring of serum theophylline concentrations and calculation of theophylline plasma clearance can reduce inaccuracy in theophylline therapy. The purpose of this paper is to review the role of theophylline in the therapy of childhood asthma and to demonstrate how the careful application of pharmacokinetic principles can be utilized to individualize the dosing regimen.

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Pharmacology of Theophylline

The exact mechanism through which theophylline achieves therapeutic efficacy remains under investigation. Clinically, studies have repeatedly shown that theophylline decreases symptoms of acute asthma,[4] chronic asthma,[5] and exercise-induced bronchospasm.[6] The bronchodilatory effect of theophylline as measured by pulmonary function testing has been found to be directly related to the logarithm of the serum theophylline concentration over the range of 5-20 mcg/ml.[7] The generally accepted "therapeutic range" for theophylline in serum is 10-20 mcg/ml.[1,2]

Adverse effects are occasionally seen during theophylline therapy and should be quickly recognized. Commonly observed "side-effects" involve the gastrointestinal, cardiovascular, and central nervous systems. Theophylline may induce nausea, vomiting, diarrhea, and abdominal cramping. Effects on the cardiovascular system can manifest as sinus tachycardia, particularly at serum theophylline concentrations exceeding 30 mcg/ml. At higher concentrations, ventricular tachycardia and premature ventricular contractions may be observed. Central nervous system manifestations of theophylline toxicity include insomnia, headaches, and irritability. Theophylline has been associated with seizures at serum concentrations greater than 40 mcg/ml. If theophylline toxicity is suspected on the basis of clinical findings, a serum theophylline concentration should be obtained.

Products which combine theophylline with ephedrine, barbiturates, and/or guaifenesin remain on the market in both prescription and over-the-counter formulations. Commonly used combination products are listed in Table I. While these preparations have not been shown to be more efficacious than theophylline alone in the treatment of asthma, the incidence of adverse drug effects has been shown to be higher in patients receiving the combination products.[5,8] The

vast majority of pediatric allergists and pulmonologists avoid these preparations.

Under normal circumstances, the extent of absorption of theophylline from most commercially available oral preparations approaches 95-100% in children.[9] The extent of absorption is not appreciably affected by the concomitant presence of food or antacids. Rectal absorption of theophylline is erratic and administration of the drug by this route should be avoided. Intramuscular administration should also be avoided.

The rate of absorption of orally administered

TABLE 1
COMBINATION PRODUCTS CONTAINING THEOPHYLLINE

	Product Name	Dosage Unit	Manufacturer	Amount of Theophylline	Other Agents in Combination Products
OTC	Primatine Tablets "M formula"	tab	Whitehall	130 mg	Ephedrine 24 mg Pyrilamine Maleate 16.6 mg
	Primatine Tablets "P formula"	tab	Whitehall	130 mg	Ephedrine 24 mg Phenobarbital 8 mg
	Bronkaid Tablets	tab	Winthrop	100 mg	Ephedrine 24 mg Guaifenesin 100 mg
	T.E.H.	tab	Geneva	100 mg	Ephedrine Hydroxyzine
	T.E.P.	tab	Geneva	100 mg	Ephedrine Phenobarbital
	Tedral	tab	Warner-Lambert	130 mg	Ephedrine 24 mg Phenobarbital 8 mg
	Tedral SA	tab	Warner-Lambert	180 mg	Ephedrine 48 mg Phenobarbital 25 mg
	Tedral 25	tab	Warner-Lambert	130 mg	Ephedrine 48 mg Butabarbital 25 mg
	Tedral expectorant	tab	Warner-Lambert	130 mg	Ephedrine 24 mg Guaifenesin 100 mg
	Tedral suspension	5 cc	Warner-Lambert	65 mg	Ephedrine 12 mg Phenobarbital 4 mg
	Tedral elixir	5 cc	Warner-Lambert	32.5 mg	Ephedrine 6 mg Phenobarbital 2 mg
Prescription	Bronkolixir	5 cc	Breon Laboratories	15 mg	Ephedrine 12 mg Guaifenesin 50 mg Phenobarbital 4 mg
	Marax	tab	Roerig	130 mg	Ephedrine 25 mg Hydroxyzine 10 mg
	Marax syrup	5 cc	Roerig	32.5 mg	Ephedrine 6.25 mg Hydroxyzine 2.5 mg
	Mudrane	tab	Wm. P. Poythress & Co.	111.8 mg	KI - 195 mg Ephedrine 16 mg Phenobarbital 8 mg
	Quibron	caps	Mead Johnson	150 mg	Guaifenesin 90 mg
	Quibron elixir	15 ml	Mead Johnson	150 mg	Guaifenesin 90 mg
	Quibron plus	caps	Mead Johnson	150 mg	Guaifenesin 100 mg Ephedrine 25 mg Butabarbital 20 mg
	Quibron plus	15 ml	Mead Johnson	150 mg	Guaifenesin 100 mg Ephedrine 25 mg Butabarbital 20 mg

theophylline depends upon the formulation characteristics of each specific preparation. Plain uncoated tablets and elixirs are rapidly absorbed with peak serum concentrations generally observed within 1-2 hours after drug administration. Sustained release preparations may vary widely in their rate of absorption. Poorly formulated "sustained release" preparations may have absorption profiles that do not differ significantly from the rapidly absorbed, uncoated theophylline tablets. SloBID (Rorer) and Theodur Tablets (Key Pharmaceuticals, Inc.) have been found to possess the most uniform absorption profiles over the dosing interval.[10,11]

Theophylline distributes into a physiologic space which approximates the total body water. Distribution occurs rapidly, with serum and tissue drug concentrations approaching equilibrium within one hour after administration of an IV loading dose.[12] The volume of distribution (Vd) of theophylline is the volume of body fluid into which theophylline appears to distribute with a concentration equal to that in the serum. The Vd of theophylline in children varies slightly with age, but for practical purposes can be assumed to average 0.45 L/kg (range: 0.3-0.7 L/kg) in children over one year of age, and 0.50 L/kg in infants between 20 and 48 weeks of life.[13,14]

Hepatic metabolism of theophylline occurs primarily via demethylation. In older children and adults, approximately 90% of the drug is cleared through the liver. No significant first pass effect is seen during oral theophylline therapy.

The steady state serum theophylline concentration is achieved when the rate of administration of theophylline equals the rate at which it is eliminated from the body. At steady state, the serum theophylline concentration remains stable as long as the rates of drug administration and elimination do not change.

The clearance of any drug reflects the rate at which the drug is eliminated from the body. The serum clearance of a drug is inversely related to the half-life of that drug (e.g., the time required for the serum drug concentration to decline by 50%). Serum drug concentrations reach approximately 95% of eventual steady state levels after a period of time equivalent to 5 half-lives for that drug has passed. For children between 2 and 11-12 years of age, the half-life of theophylline averages 3.4-3.7 hours.[13,14] Thus, the majority of children who receive aminophylline by continuous intravenous infusion achieve state serum theophylline concentrations between 18 and 24 hours after therapy has begun.

Theophylline clearance can be altered by many factors. Examples of factors which may increase or decrease serum theophylline clearance are listed in Table 2.

TABLE 2
FACTORS KNOWN OR SUSPECTED TO ALTER SERUM THEOPHYLLINE CLEARANCE

Factor	Effect on Clearance
Obesity	Decrease
Smoking (cigarettes or marijuana)	Increase
High protein diet	Increase
Charcoal broiled foods	Increase
Concurrent viral infection	Decrease
Liver disease	Decrease
Congestive heart failure	Decrease
Concomitant drug therapy	
Erythromycin	Decrease
Cimetidine	Decrease
Phenobarbital	Increase
Carbamazepine	Increase
Phenytoin	Increase
Propranolol	Decrease

Surreptitious smoking of cigarettes or marijuana by adolescent asthmatics may increase theophylline clearance and thereby lower steady state serum levels. Children whose diets are high in protein or charcoal-broiled meats may also demonstrate enhanced theophylline clearance. Theophylline clearance may also be increased by concurrent administration of many commonly prescribed medications. Awareness of the factors which enhance theophylline clearance can help to differentiate between noncompliance with drug therapy and rapid serum clearance.

A reduction in the serum clearance of theophylline can result from many factors. Intrinsic hepatic disease may decrease the rate at which the biotransformation of theophylline occurs, with resultant reduction of serum theophylline clearance. A decrease in the effective hepatic blood flow, which often accompanies congestive heart failure, may have an effect qualitatively similar to intrinsic hepatic disease on the serum theophylline clearance. Viral illnesses[15,16] and concurrent therapy with several commonly prescribed

medications[17] may interfere with serum theophylline clearance as well.

Commonly used laboratory methods for the determination of serum theophylline concentration include the EMIT® system (SYVA Corporation) and the Ames® Immunofluorescent Assay System. While both tests are very reliable, errors in either specimen collection or laboratory methods can result in unreliable serum theophylline concentrations. Typical errors incurred in the collection of serum specimens include sampling "upstream" from the site of a continuous IV infusion of aminophylline, or the collection of serum samples at inappropriate times. Laboratory charges for the quantitation of serum theophylline concentrations vary from $25-$60. The collection of inappropriately timed samples is not only costly, but may lead to inappropriate changes in theophylline dosing. Reliable performance and interpretation of serum theophylline levels are absolute prerequisites for the determination of meaningful theophylline clearance values and hence, for the subsequent estimation of appropriate theophylline dosing.

The timing of sample collection for serum theophylline measurement is crucial. It relates not only to the dosage form and route of administration of the drug, but also to patient specific variables such as drug disposition, underlying disease states, GI tract motility, etc. For plain uncoated tablets and for elixirs, peak serum theophylline concentrations are usually obtained between one and two hours after a given dose. Sustained release products have a variable rate of absorption, thus the timing of serum collection depends partially on the individual product. Generally, peak levels for sustained release preparations should be obtained between four and eight hours after a given dose. For hospitalized patients receiving continuous infusion aminophylline, timing of serum theophylline concentrations depends on the severity of the illness and on the laboratory turn-around time for determination of the serum drug levels. If the laboratory turn-around time is rapid, the serum theophylline concentration should be checked between one and two hours after the completion of the loading dose and the subsequent initiation of the continuous infusion of aminophylline. This allows for repeated bolus dose administration in acutely ill patients with serum theophylline concentrations below the therapeutic range. If the laboratory turn-around time is slow (i.e. greater than 6 hours), a serum theophylline level collected between one and two hours after the bolus dose is not useful. In this situation, it is most cost effective to collect a specimen for serum theophylline measurement at steady state (i.e. 18-24 hours after the initiation of an uninterrupted infusion of aminophylline). Serum theophylline levels obtained prior to reaching steady state are difficult to interpret as drug accumulation may still be occurring.

Protocol for Provision of Theophylline Therapy

Theophylline dosing in outpatient asthmatics (ages 1-16 years) who have not previously been treated with theophylline or who are only intermittently treated with theophylline should begin with a total daily dose of 16 mg/kg of body weight.[17] Earlier recommendations suggesting initial theophylline doses as high as 24 mg/kg/day have been associated with an unacceptably high incidence of adverse effects.[18] Theophylline dosage may be increased by 4 mg/kg/day every third day if symptoms persist and no adverse drug reactions are observed. Serum theophylline concentrations should be monitored if dosing requirements exceed 24 mg/kg/day in children aged 1-9 years or 20 mg/kg/day in children aged 10-16 years. Occasionally, patients with rapid theophylline clearance may require in excess of 30 mg/kg/day of theophylline to maintain therapeutic serum concentrations.

In hospitalized asthmatics receiving aminophylline via continuous IV infusion, calculation of serum theophylline clearance at steady state permits estimation of individual theophylline requirements. Calculation of an appropriate loading dose, a constant infusion rate, and conversion from IV to oral theophylline dosing can be accomplished using fundamental pharmacokinetic concepts.

Several assumptions must be made prior to calculation of the serum theophylline clearance and subsequent estimation of theophylline dosing (see Table 3). Children must be between one and sixteen years of age with acute asthma severe enough to require hospital admission for continuous IV aminophylline infusion. A minimum of 18-24 hours on an uninterrupted, constant infusion of aminophylline is necessary. When selecting a theophylline dose for significantly obese

TABLE 3
ASSUMPTIONS FOR APPLICATION OF PHARMACOKINETIC PRINCIPLES TO THEOPHYLLINE DOSING

1. The laboratory method for determination of the serum theophylline concentration must be reliable.
2. Serum theophylline concentrations used in calculations of the clearance must be drawn at steady state (i.e., approximately 18-24 hours after initiation of an uninterrupted infusion of aminophylline).
3. First order (non-saturable) elimination kinetics are assumed.
4. Calculation of theophylline dosing must be done on the basis of ideal body weight in obese children.
5. No underlying conditions markedly change the apparent volume of distribution (Vd) of theophylline (e.g., severe liver disease with hypoproteinemia).

children (i.e., those children whose total body weight is greater than 30% above their ideal body weight), ideal body weight rather than actual body weight should be used in the calculation of an appropriate theophylline dose. Parents receiving medications known or suspected to influence theophylline clearance should be monitored more closely.

Equations for the estimation of theophylline clearance assume linear kinetics with first order elimination. A small minority of patients may exhibit non-linear (dose-dependent) kinetics, meaning that a small increase in the theophylline dose may produce a disproportionately large increase in the serum theophylline concentration.

Last but most importantly, laboratory methods for the quantitation of serum theophylline concentrations must be reliable. If the serum theophylline levels are unreliable, estimates of serum theophylline clearance based upon these levels will also be unreliable.

Table 4 lists the formulae necessary for all pharmacokinetic calculations. Table 5 (Appendix) illustrates the application of these formulae to a simulated clinical situation.

Calculation of an appropriate loading dose requires a knowledge of the current dose, dosing interval, and formulation of theophylline, as well as the time of administration of the most recent dose. If no theophylline has been taken in the

TABLE 4
FORMULAE FOR ESTIMATION OF THE PHARMACOKINETIC PARAMETERS

1. Loading dose:

 $DL = (Cpdes - Co)(Vd)$

 Where: DL = loading dose (in mg/kg)
 Cpdes = serum theophylline concentration desired following the loading dose
 Co = serum theophylline concentration prior to giving the loading dose
 Vd = apparent volume of distribution (5-12 mos: 0.50 L/kg; >12 mos: 0.45 L/kg)

2. Continuous rate of infusion of theophylline (Cl unknown):

Age	Rate of Infusion of Theophylline (mg/kg/hr)
4-52 wks.	0.3 + (0.01) (age in wks)
1- 9 yrs.	0.8
10-16 yrs.	0.6

 (Note: Rates of infusion are listed for theophylline and must be converted to aminophylline. Use great caution when the rate of infusion exceeds 1.2 mg/kg/hr of theophylline.)

3. Calculation of serum theophylline clearance:

 $Cl = Ro/Cpss$

 Where: Cl = steady state serum theophylline clearance (L-kg)
 Ro = rate of continuous theophylline infusion (mg/kg)
 Cpss: steady state serum theophylline concentration (mg/L)

4. Conversion of IV dose to oral dose:

 $Do = (Cpss \cdot T \cdot Cl) \div f$

 Where: Do = oral theophylline dose (mg/kg/*dose*)
 T = dosing interval (hrs)
 f = fraction of drug absorbed from GI tract
 (no units; f = 1 for most oral theophylline preparation

5. Conversion of aminophylline to theophylline:
 Aminophylline is 79-85% theophylline in almost all preparations.
 Use 80% for an average figure.
 ∴ theophylline dose = (aminophylline dose) (0.8)

24-hour period to hospital admission, serum theophylline levels can be assumed to be negligible under normal circumstances. If the status of theophylline dosing in the previous 24 hours is uncertain, determination of a serum theophylline level will help to guide therapy. The loading dose may be calculated by multiplying the difference between the desired and current serum theophylline levels by the apparent volume of distribution (Vd) of theophylline. Loading doses should be administered over 20-30 minutes by continuous IV infusion. Generally, the serum theophylline concentration following a loading dose of 5-6 mg/kg of theophylline is 10-12 mcg/ml.

Following the completion of the theophylline loading dose infusion, an age-appropriate continuous infusion should be initiated immediately. The infusion rate may be adjusted once steady

TABLE 5
EXAMPLE — THEOPHYLLINE DOSING PROTOCOL:

Clinical information: e.g. 9 y/o with acute exacerbation of asthma who has not taken any theophylline in the last 24 hrs and is on no other medications and has no known hepatic or cardiovascular disease. Pt wt = 35 kg.

1. Calculation of loading dose:
 DL = (Cpdes — Co) (Vd)
 Cpdes = desired serum theophylline concentration after the loading dose is given
 Co = 0 (pt not on theophylline in past 24 hr)
 Vd = 0.45 L/kg
 ∴ DL = (10 — 0 mg/L) (0.45 L/kg) = 4.5 mg/kg of theophylline (equivalent to 5.62 mg/kg of aminophylline)
 ∴ DL = 197 mg or approximately 200 mg aminophylline (given IV over 20-30 min)
2. Calculation of continuous infusion rate:
 Ro = 0.8 mg/kg/hr theophylline (age-adjusted)
 Conversion to aminophylline: 1.0 mg/kg/hr
 ∴ Ro = (1.0 mg/kg/hr) (35 kg) = 35 mg/hr of aminophylline
 Assume that theophylline level drawn 24 hrs after initial loading dose = 10.0 mg/L (mcg/ml = mg/L) and that patient continues to be symptomatic.
 ∴ Repeat loading dose:
 DL = (Cpdes — Co) (Vd)
 this time Cpdes = 15 mcg/ml; Co is = 10.0 mcg/ml
 ∴ DL = (15-10) (0.45) = 2.25 mg/kg of theophylline
 (∴ 2.8 mg/kg of aminophylline)
 ∴ DL = (2.8 mg/kg) (35 kg) = 98 mg or approximately 100 mg of aminophylline

Also, the continuous infusion rate must be increased. This can be calculated as follows:

First, steady state serum theophylline clearance must be calculated:
Cl = Ro/Cpss
Cpss = 10 mg/L; Ro currently = 1.0 mg/kg/L
∴ Cl = (1.0 mg/kg/hr) ÷ (10 mg/L) = 0.100 L/kg/hr
(of aminophylline; theophylline Cl = 0.08 L/kg/hr)

Now the new rate of continuous infusion can be calculated using clearance:
Ro = Cl • Cpdes
∴ Ro = (.100 L/kg/hr) (15 mg/L) = 1.5 mg/kg/hr
(remember: the 1.5 mg/kg/hr is aminophylline —
∴ Ro = 52.5 mg/hr of aminophylline to achieve a steady state serum theophylline concentration of 15 mg/L

Assume now that the patient becomes asymptomatic and it is desired to switch to an oral theophylline preparation.

3. Calculation of oral theophylline dose:
 Do = (Cpss • T • Cl) ÷ f
 Assume that it is desired to keep the average steady state serum theophylline conc. = 14 mg/L and that it is desired to dose the patient with a sustained release theophylline preparation (q 12 hr dosing). Remember, f = 1.0 for most products as oral theophylline is virtually completely absorbed.
 First, remember that oral dosing will be accomplished using theophylline containing drugs, thus:
 Cl = 0.080 L/kg/hr
 ∴ Do = (14 mg/L) (12 hrs) (0.080 L/kg/hr) ÷ (1.0) = 13.4 mg/kg/*dose*
 (Remember that the calculated result is a single dose given q 12 hrs.)

(In this example, the child has a rapid Cl. Dosing may need to be changed to 300 mg q 8°.)

state is reached (e.g., in 18-24 hours) or earlier if signs and symptoms consistent with theophylline toxicity are noted. Age-adjusted constant infusion rates for theophylline are listed in Table 4.

Continuous infusion pumps aid in the maintenance of a steady, uninterrupted flow of aminophylline. No more than the equivalent of 4 hours of an aminophylline containing IV fluid should be placed in the buretrol of the infusion pump at any given time. This helps to eliminate inadvertent overdosing with theophylline. A separate IV line for the continuous aminophylline infusion is ideal, but not always practical.

Adjustments in the constant infusion rate of aminophylline can be made if serum theophylline concentrations are either subtherapeutic or in the potentially toxic range. Calculated adjustments of the constant infusion rate require that serum theophylline clearance (Cl) first be estimated (see Table 4). Clearance can be estimated by dividing the rate of constant infusion of theophylline (e.g., 0.8 $\times$ infusion rate of aminophylline) in mg/kg/hr by the steady state serum theophylline concentration (Cpss). Once Cl has been estimated, the new rate of infusion of aminophylline calculated to produce a desired steady state serum theophylline level (Cpdes) is simply Cl multiplied by Cpdes. Caution must be used when constant infusion rates exceed 1.50 mg/kg/hr of aminophylline (1.20 mg/kg/hr of theophylline).

Once the acute symptoms and signs of asthma have resolved, selection of an appropriate oral theophylline dose can utilize the calculated clearance data. The estimated oral theophylline dose in mg/kg/*dose* (Do) equals the product of the clearance (Cl), the desired steady state serum theophylline concentration (Cpss), and the dosing interval in hours (τ), all divided by f, the fraction of the drug which is absorbed from the gastrointestinal tract (essentially 100% for most commonly used products). The dosing interval is generally 6 hours for plain, uncoated tablets and elixirs and 12 hours for sustained release theophylline preparations. An occasional child will require an 8 hour dosing interval while taking sustained release theophylline due to extremely rapid clearance (i.e. short half-life). Conversions from aminophylline to theophylline and vice versa must be carefully observed.

SUMMARY

Theophylline plays a major role in contemporary asthma management. Because of its relatively low therapeutic index, serum theophylline measurements are frequently necessary in patients with severe acute symptoms, persistent chronic symptoms, and signs of toxic effects from theophylline. Awareness of significant pharmacologic interactions involving theophylline, appropriate timing of serum theophylline measurements, and calculation of fundamental pharmacokinetic parameters can aid in the dosing of theophylline in children with asthma. The result can be more efficacious theophylline use with less frequent toxic effects.

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EDITORIAL

The Cutting Edge

Alfred Kahn, Jr., M.D.

There is a vast increase in the number of articles submitted for publication over the past few years—and there is a proliferation of articles on clinical research. The cutting edge of the latter field is often in *The Journal of Clinical Investigation*. There is a variety of articles in the December, 1983, issue (Volume 72). One of the most interesting was a PERSPECTIVES entitled "Regulation of Contractile Proteins by Phosphorylation" by R. S. Adelstein. The article is really an overview of recent work on actin and myosin which are responsible not alone for the contraction of muscles, but which are also responsible for the contraction of some cells other than muscle cells—they are responsible for movement and the change in shape. Adelstein also says these proteins are responsible for some of the other important cell functions, as cell migration, cytokinesis, phagocytosis, and secretion. These proteins form filaments. Actin is said to be composed of two filaments which, so to speak, entwine and have the shape of a helix. These filaments are described as being unipolar—and "are attacked to the cell membrane in nonmuscle cells, dense bodies in smooth muscle cells, and to the well-defined Z line structures in skeletal and cardiac muscles." These are the so-called thin filaments. On the other hand, myosin is said to be bipolar and made up of an asymmetric large protein. The arrangement of cell in this particular protein is that of one pair of heavy chains and two pairs of light chains. The author describes a globular head on this molecule which attaches to actin. He describes contractile activity as resulting in "some sliding of myosin and active filaments past each other—and detachment of the myosin head (from actin) followed by reattachment at another site further down the active filament. The energy for the physical movement of actin filament past the myosin filament is supplied by ATP." There is said to be a difference between the myosins from different cell types—nonmuscle, smooth muscle, and striated muscle; the difference has to do with the regulation of the hydrolysis of ATP; in skeletal and cardiac muscle, the author states that this regulation occurs at the level of the actin filaments—an increase in concentration in calcium in the muscle seems to stimulate contraction. Adelstein describes how phosphorylation regulation is brought about in smooth muscle, nonmuscle cells, and striated muscle. He gives an excellent description of the step by step process wherein a physio-chemical process induces a mechanical change in the contractile protein.

Thyrotropin-releasing hormone was thought to stem from the tissues in the central nervous system near the pituitary gland. Dolva, Nielsen, Welinder, and Hanssen have now reported on "The Biosynthesis and Release of Thyrotrophin-releasing Hormone Immunoreactivity in Rat Pancreatic Islets in Organ Culture". To most physicians, the fact that thyrotropin-releasing hormone can be synthesized in the pancreatic islets in rate, for example, seems to be very surprising. These authors state that in their study of newborn rats, the male source of thyrotropin-releasing hormone seems to be the pancreas; this source of thyrotropin-releasing hormone decreased fairly rapidly when thyrotropin-releasing hormone begins to be manufactured in the hypothalamus. In their present study, they used a culture obtained from islet cells. They found, as noted above, thyrotropin-releasing hormone was synthesized. Of further interest was the fact that thyrotropin-releasing hormone was released under appropriate stimulus and the stimulus was glucose.

A good deal has been written in the recent past on noninsulin-dependent diabetics. Foley, Kashi-

wagi, Verso, Reaven, and Andrews have published an article entitled "Improvement in In Vitro Insulin Action After One Month of Insulin Therapy in Obese Noninsulin-dependent Diabetics". It is of incidental interest that there is a Symposium on this very topic in *The American Journal of Medicine,* November, 1983—emphasizing the role of Glipizide—this is a supplement to the regular issue of *The Journal.* Foley and his co-authors state that there have been observations in the past indicating some defects in the intercellular metabolism of fat cells in noninsulin-dependent diabetes mellitus; as a matter of fact, he questioned whether the defect in the fat cells was the cause or the result of diabetes mellitus. Foley et al., in this report, studied fat cells before and after insulin therapy in a group of obese noninsulin-dependent diabetic patients. They report that insulin seemed to stimulate glucose transport, and glucose incorporation into triglycerides. They further state that basal lipolysis decreased. The authors state definitely that glucose incorporation into lactate and some other metabolites was not improved. Also, they said that the sensitivity of glucose transport to insulin did not improve. They concluded that giving insulin to this group of patients was helpful. In the supplement of *The American Journal of Medicine* mentioned above, the use of Glipizide was found to be helpful. The reader is urged to review both the articles in the Symposium and this article to get a better understanding of noninsulin-dependent diabetes.

Myocardial hypertrophy has been studied extensively in the recent past. A number of articles have been written on assymetric hypertrophy, the hypertrophy accompanying various diseases such as amyloid disease, vascular disease, etc. Of particular interest is the question as to whether or not myocardial hypertrophy is accompanied by an increase in connective tissue. Williams, Mathew, Hern, Potter, and Deiss have published a paper using the cat as an experimental animal entitled "Myocardial Hydroxyproline and Mechanical Response to Prolonged Pressure Loading Followed by Unloading in the Cat". As the authors point out, myocardial hypertrophy may regress and, despite this, myocardial function may not return to normal. They, and others, have speculated that this failure might be related to the deposition of excessive connective tissue which appears in myocardial hypertrophy in some instances. The increase in connective tissue does not invariably appear with myocardial hypertrophy—but the big question is whether or not when it does appear does it regress, does it remain the same even if the myocardial muscle tissue regresses, does it interfere with muscle contractability? In their study, the authors used the approach of banding the great arteries leading from the right and left heart in cats. They measured hydroxyproline as an indicator of what was happening to the connective tissue—hydroxyproline was the yardstick by which collagen was measured. The authors stated in their discussion that in this experimental preparation the hydroxyproline increased roughly parallel with the muscle mass; furthermore, the hydroxyproline decreased as muscle hypertrophy decreased. They stated that if the load placed on the myocardium is severe enough to cause myocardial necrosis, the collagen mass will not decrease. The authors made an interesting observation in which they state that "It has been proposed that the connective tissue matrix of the heart is an important determinant of passive stiffness. If this hypothesis is correct, our findings combined with those of others indicate that it is disproportionate and not proportionate changes in collagen and muscle mass that alter stiffness. We found normal passive elastic constants in hearts with increased total hydroxyproline but normal hydroxyproline concentration; whereas stiffness is increased in hearts in which hydroxyproline concentration is elevated". Another important phenomenon which the authors report on are three stages which occur in pressure-induced hypertrophy: An early brief period of myocardial damage; a rather long period of what they term stable hyperfunction, and a late stage of exhaustion; of particular interest is the point that this late period of exhaustion does not seem to be related to excessive proliferation of collagen, as based on their studies.

There have been a lot of discussions as to why women prior to the menopause seem to have less vascular disease than those after the menopause. There have been innumerable studies concerning this. A recent, interesting article comes from the University of Nijmegen; it is written by Boers, Smals, Trijbels, Leermakers, and Kloppenborg and entitled "Unique Efficiency of Methionine Metabolism in Premenopausel Women May Protect against Vascular Disease in the Reproductive Years". The authors introduced the article by

discussing the metabolization of methionine which is changed to S-adenosyl-methionine, S-adenosyl-homocysteine, and homocysteine. Homocysteine, they point out, can again form methionine or be chemically altered by cysteine. Studies have shown that men have higher levels of homocysteine-cysteine than women. Furthermore, they state that this is of considerable interest because individuals who have a metabolic error known as homocystinuria have an early development of arteriosclerosis and often have thrombo embolic episodes. Boers et al. further report that elevated homocysteine levels in animals damage the endothelium of blood vessels and tend to promote arterio-sclerosis. To study this in humans, the authors used four groups of healthy subjects, including 10 men between 45-61 years of age, 10 men between 22-35 years of age, 10 women between 45-59 years of age, and 10 young women aged 14-42 years. These groups were given a loading dose of methionine varying in amount according to the size of the individual. Later they measured the serum level of methionine, homocystine, and the homocysteine-cysteine levels. The authors found that the fasting methionine level was higher than that in their female subjects who were post-menopausal. They go on to state that no difference was found between the fasting methionine level in men and premenopausal women. They state that the methionine level in premenopausal women was definitely high as compared to that of post-menopausal women. They state "The present data illustrate that methionine loading uncovers a so far unreported difference in the occurrence of homocystinemia between pre- and post-menopausal women. Furthermore, the data in both groups of men strongly suggest that the unique absence of homocystinemia after loading in pre-menopausal women is not due to their young age". Homocysteine-cysteine mixed disulphide was higher in men than in women and this same mixed disulphide was only one-third as high in young women before the menopause as in women after the menopause. The authors conclude "that the unique efficiency in methionine handling in pre-menopausal women, which leads to a virtual absence of circulating homocystine and much lower levels of the disulphide, might be a natural defense mechanism to protect women in the reproductive life cycle against vascular disease."



"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Journal of the Arkansas Medical Society
Vol. 5 No. 1 Oct., 1894 p. 36-37
Proceedings Nineteenth Annual Session
SECTION ON SURGERY
Thursday Afternoon

The Section was called to order by the chairman, Dr. Edwin Bentley, at 2 o'clock.

The chairman delivered his address, having for its subject: "Asepsis and Brain Surgery." It was referred for publication.

Dr. J. A. Dibrell, Jr., read reports of surgical cases entitled "Surgical and Pathological Memoranda."

It was referred to the publication committee.

Dr. C. S. Gray read a paper on "A New Remedy in Chronic Trachoma."

After discussion it was referred for publication.

Dr. Vinsonhaler read his paper on "A Modified Hotz Operation," which was discussed and referred to the publication committee.

Dr. M. G. Thompson read a paper on "Local Tuberculosis," which was referred for publication.

Dr. Southard read a report of "Empyema of Three Years' Duration Treated by Resection of a Rib."

Dr. Hatchett read a report of "A Rare Case of Hemorrhage from the Male Urethra."

Dr. Guthrie read a paper on "Dislocations."

The above papers were discussed and referred to the publication committee.

The Section adjourned.

D. A. Gray, M.D.
Secretary

MEDICINE IN THE NEWS

THE MONTH IN WASHINGTON

Congress Passes Fee Freeze — With Sanctions

With virtually no substantive debate, Congress on June 27 approved a rigidly-monitored 15 month physician freeze expected to save Medicare $2.9 billion over the next three years.

The provision, attached to the FY85 budget bill, would require federal monitoring of every physician who did not sign a "participating physician" agreement. It would provide financial inducements for physicians who signed "participating physician" agreements committing them to assign all claims thereby accepting the frozen Medicare fee allowance as payment in full.

Nonparticipating physicians would be federally monitored. If a pattern of increasing fees to Medicare patients during the freeze was found, the physician could be fined up to $2,000 or "debarred" (suspended) from Medicare for up to five years.

The provision was concocted by Office of Management and Budget Director David Stockman and House conferees Reps. Andy Jacobs (D-IN), Henson Moore (R-LA) and Henry Waxman (D-CA) as a way out of an impasse over Senate resistance to House demands that any physician fee freeze be accompanied by mandatory assignment.

Responding to the committee action, the American Medical Association said that the new program would "intrude into the physician patient relationship for Medicare beneficiaries" and "is discriminatory toward a law abiding segment of physicians" and "patients who want to choose their physicians and have a voice in their own medical care."

The Medicare fee freeze is a major portion of the $6.5 billion in Medicare cuts included in the budget package of spending cuts and tax increases. Other major Medicare savings came from an increase in premiums and tighter limits on Medicare payments to hospitals. The package was approved 268 to 155 in the House and 83 to 15 in the Senate.

Until the conferees agreed to the new monitored freeze, the fee freeze and the premium increase had been major obstacles to passage of the budget bill. A Senate proposal would have frozen all fees for one year and then continued the freeze for a second year for physicians who didn't agree to accept all claims on assignment.

However, most House conferees were adamantly opposed to a freeze without mandatory assignment and still preferred a previously rejected House proposal tying a fee freeze to mandatory assignment of all inpatient claims. The House conferees wanted, at the very least, to "trigger" a mandatory assignment requirement if certain targets were exceeded.

The Reagan Administration had previously indicated that it would accept mandatory assignment if necessary to get the savings from a fee freeze, and Stockman entered the fracas when it appeared the freeze stalemate might kill the larger budget bill. The Budget director called AMA Executive Vice President James Sammons, M.D., and suggested that the AMA, then assembled for its annual meeting, agree to some form of mandatory assignment.

Bluntly informed by Dr. Sammons that mandatory assignment was a non-compromisable issue, Stockman continued to work behind the scenes, reportedly for adoption of a triggered mandatory assignment. Unyielding resistance to any form of mandatory assignment by Sen. Robert Dole (R-KS) and Senate conferees Sens. Max Baucus (D-MT), Lloyd Bentsen (D-TX) and John Danforth (R-MO) led to the development of the alternative.

It will:

—freeze Medicare customary and prevailing fees for all physicians for 15 months beginning July 1, 1984.

—establish a "participating physician" option for physicians who agree to accept all claims on assignment. Participating physicians could increase their billed charges to Medicare and although the fees they receive will remain frozen, the increased billings will be reflected in future fee screen updates.

—permit nonparticipating physicians to accept assignment on a case by case basis but monitor each physician comparing current charges to a three month base period compiled by Medicare carriers.

—fine up to $2,000 plus the "overcharge" or bar from Medicare any "nonparticipating physician" found to have a pattern of increasing fees collected from Medicare patients.

Other provisions of the budget package would:

—move up to July 1, 1985 the due date for a report on the "advisability and feasibility" of physician DRGs.

—phase in a permanent national fee schedule for clinical laboratories and for lab services in physicians offices. The fees would be set at 60% of the prevailing charges for the year beginning July 1, 1984.

—limit increases in Medicare's diagnosis related group reimbursement in fiscal 1985 to the rate of increase in the cost of the marketbasket of goods and services hospitals purchase.

—retain an expiring provision setting Medicare Part B premiums at 25% of program costs. This provision would increase the premium in 1986 to $19.10 a month as compared to $17.70 in current law.

—reject an increase in the Part B deductible.

—increase federal Medicaid payments for some pregnant women and children. The provision is a more limited version of Rep. Henry Waxman's (D-CA) Child Health Assurance (Assessment Program).

—reject an extension of current reductions in federal Medicaid payment to states.

—outline new guidelines for telephone monitoring of pacemakers that would take effect unless HHS issued new guidelines by October 1, 1984; establishing a pacemaker registry within FDA; and requiring HHS to review the appropriateness of Medicare payments to physicians for pacemaker implants.

—call for a physician reimbursement study by the Office of Technology. Objectives of the study —to be completed by December 31, 1985—include suggestions for eliminating payment differences for cognitive and procedural care, increasing incentives for acceptance of assignment, and studying the "advisability or feasibility" of national or regional fee schedules.

* * * *

DRGs For Doctors May Not Be So Good, Senators Say

Hasty extension of Medicare's diagnosis related groups pricing system to physicians might be an easy way out for Congress but could have unintended consequences for the health care system, two influential Republican Senators agree.

Addressing a June meeting sponsored by the Government Research Corporation, Sens. Robert Dole (R-KS) and John Heinz (R-PA) suggested that although physician reimbursement changes are clearly called for, extension of DRGs to physicians might not accomplish the desired objectives. And a Health Care Financing Administration official Henry Desmarais, M.D., reported "that his agency is keeping its options open" and, upon the advice of its physician advisory group, is looking at a revised relative value scale as well as extension of DRGs to physician.

Sen. Dole, who chairs the Senate Finance Committee, said he believes his colleagues should wait until they have better data before tackling the physician reimbursement issue. Sen. Heinz, who heads the Senate Aging Committee and serves on the Finance Committee, introduced legislation moving Medicare to negotiated fee schedules for physicians.

Noting that Congress has already directed HCFA to study the "advisability and feasibility" of physician DRGs, Dole reported that the Office of Technology Assessment will also be studying physician reimbursement and that his committee is working with the Institute of Medicine to assure that an IOM physician reimbursement study is useful to Congress. He urged his colleagues to "wait until all the cards are on the table before we start dealing a hand which can't be played."

Heinz said that extension of DRGs to physicians would mark "a longer step in health care policy than our present knowledge can possibly justify." His bill, introduced June 13 and called the Medicare Incentives Reform Act (MIRA), is viewed as an alternative to a measure introduced by Sen. Edward Kennedy (D-MA) and Rep. Richard Gephardt (D-MO). Like the Kennedy-Gephardt plan, MIRA would encourage the development of state cost control plans applied to all payers. Whereas Kennedy-Gephardt relies on the threat of a federal all-payers DRG plan to induce state action, the Heinz measure would increase Medicare payments to states that set up their own plans. States that did not would be subject to tightened-down Medicare hospital DRG provisions and to a new Medicare physician payment system.

Unlike the federal portion of the Kennedy-Gephardt plan which would extend DRGs to inpatient physician services, Heinz is proposing Medicare fee schedules based on a relative value scale that "reemphasizes primary and preventive care and deemphasizes hospitalization and high technology." To become fully operational in 1990, the fee schedule would be accompanied by a requirement that participating physicians take all inpatient Medicare claims on assignment and by regional limits on increases in Medicare payments to physicians.

Heinz is also proposing to add catastrophic coverage to Medicare and to limit annual out-of-pocket costs to two $200 annual deductibles—one for hospital services and one for physician services. The new coverage would be financed through an annual premium projected at $193 in 1985. The intent is to eliminate the need for insurance supplementing Medicare.

In defending his and Sen. Kennedy's proposal before the same meeting, Rep. Gephardt described the plan as one which allows states to pursue either the competition or the regulatory approach.

"The jury is out" on the relative merits of the two approaches, he explained, so Kennedy-Gephardt is an "attempt to drive us closer to both results at the same time. It sets goals and lets states pursue them whichever way they want, but it is important that we set the goals."

* * * *

HFCA Ratchets Down On Hospitals

Increases in Medicare payments to hospitals next year would be held to about 4% under new regulations to be proposed by the Department of Health and Human Services.

Although one portion of the formula used to calculate payments under Medicare's diagnosis related groups would be increased by 5.6%, another of the factors that determine the payment is being decreased by 2.4%.

HCFA officials said that as a result overall Medicare payments to hospitals will increase by 4.2% next year. Hospital officials said that the regulation will mean that the increase per payment will be 3.2% to 4% and that hospitals will receive about $1 billion less than they would have been paid if their earlier understanding that rates would be increased by 5.6% had held up.

The permissible rate increase is included in proposed regulations to update the prospective pricing system which took effect last October. Although HCFA intended to issue annual updates of the DRG rates and regulations by June 1, the

regulations still were not published in the Federal Register at month's end.

Part of the delay was attributed to a behind-the-scenes battle between hospitals and the Reagan Administration over the rate increase to be permitted next year. Strict application of the updating formula in the DRG law would have resulted in an increase of 7-8%. HCFA officials were considering an increase of only 2-3%, however, based on another provision of the law that required that payments under the new system be budget neutral—i.e., no greater than—those under an earlier targeted payment system.

Hospitals complained that HCFA had misconstrued the budget-neutral requirement payments after 1986. HCFA then announced it would permit DRG base rates to increase by 5.6% next year.

At the same time, however, the agency made a 2.4% across-the-board reduction in the weights of the DRGs. Since a hospital's payment for any given case is ascertained by multiplying the weight of the DRG for the particular case by the base rate, the agency had in effect held the increase to a much lower level.

The change, according to a HCFA official, was necessary because the hospitals upgraded the severity of the conditions they recorded as the principal diagnosis last year by more than HCFA thought they would. In other words, he agreed, there was more "DRG creep" than anticipated.

"Whether this is gaming (to circumvent the system), or whether the hospitals are just doing a better job of assigning" the diagnosis, "I don't know," he added.

Hospitals charged that the new rates are unfair to hospitals which have made a good faith effort to implement the new payment system. American Hospital Association Executive Vice President Jack Owen viewed the new rates as a "slap in the face to hospitals and physicians who tried to make the prospective system work." Federation of American Hospitals director Michael Bromberg threatened to go to the courts or Congress to redress the situation.

* * * *

First PRO Contract Signed

On June 21, the South Carolina Medical Care Foundation signed the first peer review organization contract in the nation.

The peer review organizations (PROs) will monitor the care provided hospitalized Medicare patients. They will replace the professional standards review organizations (PSROs), which since 1972, had performed similar duties.

The South Carolina Foundation also functioned as a PSRO and was reported to have turned in one of the best PRO bids in the country. Its $3.68 million contract is effective July 1 and will run for two years.

* * * *

Health Cost Information Proposal Assessed

Arguing that accurate data on health care costs and quality is a necessary ingredient to control of health care costs, a coalition of groups representing employers, unions and the elderly is pushing for wider dissemination of such data in general and of an amendment sponsored by Rep. Ron Wyden in particular.

The Wyden amendment, which has been scaled down from an earlier version attached to a health care technology bill, would direct the Public Health Service to use existing resources to study current efforts by business and others to collect and interpret health care data. The department would then be required to provide technical assistance, upon request, to consumer or purchaser groups that want to create their own data bases or to better understand data available from other sources.

Now part of a health manpower bill approved by the House Commerce Committee, the measure is intended to encourage the development of data collection efforts around the country. It does not authorize the PHS to collect or disseminate comparative price and quality information, however. Nor does it require providers or insurers to provide any data to the groups trying to assemble it. Confidentiality of individual patient records is to be "assured."

Groups such as the American Medical Association, which opposes the Wyden provision, have maintained that "the purchase of health care services is unique and does not necessarily lend itself to easy comparison based on price or comparative utilization." They further argue that while the bill attempts to protect the individual patient, "there have been problems in the past with careless dissemination of" such information.

Groups which favor the Wyden amendment respond that consumers are capable of understanding the data. They see the Wyden measure, which one supporter characterized as "benign," as a first step to other efforts to make health care

price, utilization and quality data more widely available.

Many of the same groups are also pushing for the new peer review organizations (PRO) that will monitor the care Medicare patients receive. The proposed PRO regulations would make data on specific hospitals available but would protect data on individual physicians. Hospitals and physician groups have argued that the proposed regulations are too broad. The business and consumer groups, which want physician specific data to be available to the public think they are too restrictive.

At a press conference June 13, Wyden said he expects his measure to come to the House floor within "the next few weeks." The proposal as yet has no Senate sponsor. In the House, it has also been endorsed by Commerce Committee chairman Rep. Henry Waxman (D-CA), Rep. Richard Gephardt (D-MO) and Rep. Tom Tauke (R-IA).

Tauke's home state last year created the Iowa Health Data Commission which has issued two reports. One reported wide variations in hospital charges across the state for 25 frequent diagnoses; the other compared financial statistics of hospitals over the period 1977 to 1982. It is that type of data that the proponents of the Wyden amendment want to foster.

Five groups represented at the press conference included the American Association of Retired Persons, the AFL-CIO, and the Washington Business Group on Health. Their primary argument involved the need for better data in a more competitive health care system.

* * * *

Arizona Experiment Draws Fire

Arizona's troubled Medicaid experiment has drawn the attention of some federal legislators who are concerned that the Reagan administration is touting the plan as a model without having properly monitored it.

The experiment, known as the Arizona Health Care Cost Containment System (AHCCS is pronounced and known as ACCESS in Arizona), contracts with prepaid capitated health care plans to care for the state's medically indigent. Enrollees, who now number about 180,000, can select among 19 plans but must remain in the one they choose for at least a year.

Enacted in November 1981, the program received a Medicaid waiver in July 1982 and began operating ACCESS about three months later. The one-year waiver was to be renewable for two additional years. Now in its second year, the waiver contract is up for renewal again at the end of June.

The federal government contributes to the cost of care for about half of the enrollees who are eligible for Medicaid and pays the entire cost for about 16,000 American Indians. The remainder of the enrollees have their care entirely funded by the state and its 15 counties. The plan is projected to cost $284.2 million through September 30, 1984, of which the federal government's share is expected to be $176.3 million.

From its inception, there have been periodic reports of problems with the program. It recently acquired its fourth director and the state has taken over management from a private firm—McAuto Systems Group, Inc.—which had an $11.4 million contract to process claims, enroll patients and monitor quality.

The reports prompted Congressional inquiries to the Health Care Financing Administration which has charge of Medicare and Medicaid waivers. The House Commerce Committee Health Subcommittee then requested a General Accounting Office investigation of HCFA's monitoring of the waiver.

When the GAO concluded that inadequate data precluded definitive findings on ACCESS' cost and quality, subcommittee chairman Rep. Henry Waxman (D-CA) brought state and federal officials before the panel for a progress report. Waxman accused HCFA officials of seeking data on the Arizona program only after GAO began its investigation. He criticized recent laudatory statements about ACCESS from Administration officials whom he charged with "making decisions based on ideology rather than data and monitoring."

HCFA Associate Administrator for Policy, Patrice Feinstein, replied that although there are still some "problems to be resolved" in the Arizona program, "we are optimistic about the potential of this innovative program." She defended her agency's monitoring of the program.

Arizona Gov. Bruce Babbitt acknowledged that the state has made a "lot of mistakes" including implementing ACCESS too rapidly and failing to impose adequate fiscal controls and quality and cost monitoring system. He was particularly critical of what he called an "unworkable two-headed"

arrangement the state had with McAuto, a subsidiary of McDonnell-Douglas.

The governor defended the quality of care received by ACCESS enrollees. He reported that costs for the prepayment portion of ACCESS rose by only 4% last year—from $79 a month to $82 a month—compared to an 11% increase nationally and about 14% at local Arizona communities.

GAO officials concurred with Babbitt's contention that many of the ACCESS problems could be attributed to its rapid implementation and noted that some of the problems might have been foreseen if HCFA had not shortened its usual waiver process for the Arizona plan.

All parties agreed that data to date is insufficient to evaluate the success of the program. HCFA has issued a $2.5 million contract to Stanford Research Institute, Inc., to evaluate the three-year demonstration. However, the evaluation depends on an "encounter form" that is to be filled out by ACCESS providers.

To date the state has had trouble getting the "encounter forms." Babbitt said that is because prepayment plans—which, unlike fee-for-service reimbursement, do not condition payment on a claims form—hold no financial incentive for completion of paperwork. Babbitt said that an evaluation based only on the encounter form will inevitably suggest underutilization in the program. As a result, he is contemplating a request to the state legislature for funds for an independent evaluation.

Feinstein contended, on the other hand, that the encounter form is viable and said if Arizona wants to continue the waiver, the state will have to rewrite its contractors with ACCESS providers to include a financial penalty for failure to complete the encounter forms.

* * * *

The Blues Restrict Coverage

In a year, the Blue Cross and Blue Shield Association will begin restricting its coverage of X-rays, CAT scans, and other diagnostic imaging procedures it believes to be medically unnecessary.

The use of diagnostic imaging procedures escalated 8% this year, and is expected to continue to climb. Many procedures are misutilized, overutilized, or redundant, said Blue Cross and Blue Shield Association President Bernard R. Tresnowski in June.

When a procedure is medically necessary and is justified in writing by the physician, the Association will pay for it. When medical necessity is in question, the case will be reviewed by a committee of Blue Cross and Blue Shield medical advisors. If the doctor and committee disagree, payment will be denied.

"Generally, we will pay the claim. But we'll be asking a lot more questions," said Tresnowski. The key recommendations of the guidelines are:

★ Neither thermography nor diaphanography are recommended to evaluate suspected breast cancer or other breast disease.

★ A CAT scan should not be used to evaluate minor headaches, but may be indicated in the case of unusual headaches suggesting a more serious brain disease.

★ Ultrasound should not be used during pregnancy unless a specific problem is suspected.

★ Routine chest X-rays are not recommended for any situation, including prenatal visits, hospital admissions or employment, except on the basis of individual history and physical examination or in testing for specific diagnosis.

Seven professional medical organizations participated in the development of the guidelines: the American College of Radiology, American Academy of Pediatrics, American College of Nuclear Physicians, Society of Nuclear Medicine, American Academy of Neurology, and the American Association of Neurological Surgeons.

* * * *

Cancer Breakthroughs Near, Congress Hears

Intense research into cancer and oncogenes now appears to be on the brink of producing actual clinical applications. Within a decade, scientists predict that they will be able to screen patients, more precisely classify tumors, and even offer therapy using this fledgling technology.

At a June hearing of a House Science and Technology Committee Subcommittee, researchers from the nation's top research institutes presented some of their most optimistic prediction yet.

By the year 2000, the current 50% cancer survival rate will jump to 75% with better preventive measures and up to 90% when oncogene research is applied, said Dr. William F. Feller of Georgetown University.

Using oncogenic know-how, new tumor classification techniques should be available by 1986; improved tumor diagnosis, by 1990; and actual cancer therapy, by 1994, said researchers.

Oncogene probes can identify the genetic

changes that signal a cancerous or at-risk individual. Because the probes can identify oncogenes, and even pinpoint where they are being expressed, very early cancers can be detected. This will be especially useful in diagnosing cancers in hard-to-reach organs, such as the pancreas, scientists said.

Improved tumor classification techniques will also be a boon to patient management. The presence of a specific oncogene may be predictive of a certain tumor type and behavior. This is important to clinicians who need to know which tumors will respond well to aggressive chemotherapy and which tumors will be unaffected.

Oncogene research funds are growing at twice the rate of other basic research funds. Oncogene investigations comprised 3.7% of the total National Cancer Institute budget in 1983, then doubled to 8.4% in 1984. A similar climb in funding is expected in 1985.

* * * *

AIDS Blood Test Nears

Five companies have been chosen by the Department of Health and Human Services to develop a blood test for AIDS based on the virus discovery announced in May. These companies have been given the HTLV-III agent that has been called by researchers as the most likely candidate yet to be the cause if AIDS. They will produce it in quantity for antibody testing of HTLV-III in blood from patients with AIDS and others.

Development of the test is being monitored by the Food and Drug Administration's Blood Products Division—not as usually is the case with tests by the Medical Devices Division. This is supposed to ensure that besides the development of a test that works with some predictability, effort will be devoted to finding out what it means when an individual is antibody positive and what effect testing blood for transfusion for this virus and its antibody will do to the nation's blood supply.

* * * *

Drug Manufacturers Release Cost Study

The Pharmaceutical Manufacturers Association produced a cost-effectiveness study showing that a number of drugs when properly used are the least expensive forms of treatment for disease and overall substantially reduce costs of health care. Examples cited were glaucoma, preventing heart attacks, anti-ulcer therapy.

The study was the result of three years of work the PMA said. The findings, considering the source, are not particularly surprising. But the effort should be noted, this study is yet another move in a trend in the health care field—efforts to determine what's cost-effective and what isn't. Everyone's asking "what is the best buy?," and the health care field is no exception.

* * * *

FDA Calls For Warnings On Chymopapain

The checkered career of the enzyme chymopapain has received yet another setback. In the 18 months since the FDA approved this meat tenderizer for treating herniated discs, at least five patients have died and 28 others had adverse reactions when given chymopapain injections for disc lesions.

The finding prompted the Food and Drug Administration to get the manufacturers to send out a warning letter to physicians and issue a labelling change emphasizing the hazards. Not clear is whether the problems arose because the agent wasn't used properly or whether they are intrinsic to the therapy. Chymopapain digests protein and some patients had spontaneous aneurysms.

Announcement

BOOK BY LITTLE ROCK DOCTOR AVAILABLE TO THE BLIND

Dr. F. Hampton Roy, a Little Rock ophthalmologist and author, has learned that the Library of Congress has transcribed one of his books on blindness into Braille and recorded it onto cassette tape for the blind.

The book, "Light in the Shadows: Feelings About Blindness," deals with the adjustment of seven people and their families to their varying degrees of blindness. One chapter deals with a mother's adjustment to giving birth to a son who has no eyes, another with a young nursing student's adjustment to losing her sight because of diabetes, another with a rabbi who, at age 82, develops corneal dystrophy, cataracts and macular degeneration, etc.

The printed edition of the book, co-authored by Elizabeth C. Perry, a psychological counselor now living in Phoenix, Ariz., was published in 1982 to raise funds for the World Eye Foundation, a non-profit organization Dr. Roy helped found to train eye specialists in Third World countries.

Dr. Roy said the printed-edition version of the book is almost out of print.

Dr. Roy said the authors sought the Library of Congress' distribution of the book, even though they receive no royalties, because they wanted the book to be produced in forms that would reach those it was most intended to help—the blind and those facing the possibility of blindness.

The ophthalmologist said he often sees people "frantic" with the fear of blindness. "There is a deeply emotional element to the idea of going blind. Some people with 20-20 vision come into the office with the fear that they are going blind."

The doctor noted that some people never adjust to blindness. In the book, "we have tried to present an upbeat, but honest picture of seven people who have adjusted to being blind," he added.

As with others whom are considered "handicapped," the blind often find that society doesn't always treat them as adults or equals; but "a lot of our concepts of what is considered handicapped or non-handicapped are changing as the blind and others show us this doesn't have to be the case," he said.

The Library of Congress, through its National Library Service for the Blind and Physically Handicapped, distributes Talking Book and Braille editions to state libraries, which, in turn, make them available to local libraries. The blind may request copies of a book through their local library or directly from the Library of Congress, which will mail the book to them postage-free.

GROUP MEDICAL PLAN ANNUAL OPEN ENROLLMENT

The annual open enrollment in the Arkansas Medical Society group medical plan underwritten by Arkansas Blue Cross and Blue Shield has been extended through October 15th. Applications received by October 15 will be made effective on the next possible effective date after receipt. The next open enrollment will be during August 1985 for a September 1985 effective date.

Membership is available to all physicians who are members of the Arkansas Medical Society. Members are billed individually to their home or business address by Blue Cross and Blue Shield.

There is a 12-month waiting period for pre-existing conditions on new memberships. Existing Blue Cross and Blue Shield memberships may be transferred with continuous coverage and time credit toward waiting periods.

Plan Summary Effective September 1983:

BENEFITS:

$500 deductible, Comprehensive Major Medical, Unlimited Lifetime Maximum Benefit.

Calendar year deductible:

$500, maximum of 2 per family per year.

Payment after deductible:

80% of Usual, Customary, and Reasonable charges.

Stop Loss:

The first $5,000 will be paid at 80%; for the rest of the calendar year thereafter, payment will increase to 100% except for limitations listed below.

Limitations:

Psychiatric, drug, & alcoholism

50% payment, maximum $4,000 per year NOT eligible for stop loss provision.

Ambulance Service

Maximum of $300 per year.

Speech Therapy

Maximum of $500 per year.

Nursing Home Care

Maximum of 30 days per year.

Private Duty Nursing

Maximum of $4,000 per year.

Supplemental Accident Benefit:

$500.

Dependent Students:

Covered to age 23.

RATES:

Individual Coverage — $90.40

Family Coverage — $197.78

For additional information or enrollment application, contact the Medical Society office or the Blue Cross & Blue Shield District Office in Fort Smith at 452-5047.

COUNCIL MINUTES JUNE 24, 1984

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, June 24, 1984, in the Camelot Inn, Little Rock. Present were: Lawson, Wilkins, Burge, Weber, Crow, J. Kolb, Rodgers, Osborne, J. Bell, Lytle, P. Bell, Hestir,

L. Langston, Wallick, Sanders, Warren, Armstrong, Bracken, Clardy, Jones, Logan, Pearson, R. Langston, Lilly, Phillips, Chudy, Hart, P. Smith, P. Kolb, Mrs. Gwen Pappas, Stuart Fitzhugh, Bob Benafield, Thomas Bruce, Milton Deneke, C. C. Long, Miss Richmond, Mr. Mitchell, Mr. LaMastus and Mr. Wroten.

The Council transacted business as follows:

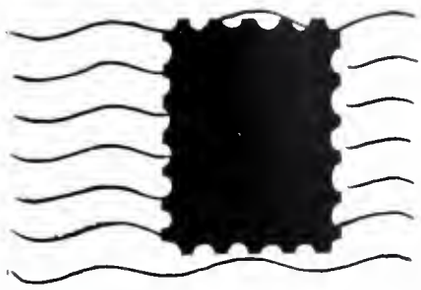
1. The Council approved actions of the Executive Committee on May 23, 1984, with the exception of Item 4 as recorded in the Executive Committee minutes.
2. The Council voted to suspend the rules to consider the appointment of a Building Committee.
3. The appointments for the Building Committee were announced by the chairman and the Council voted to approve the following appointments to the Building Committee:
 Lloyd Langston, Chairman
 Charles Logan
 Joe Norton

 The Council voted to limit the function of the Building Committee to the selection of a building site and building plans and specified that other problems associated with moving the headquarters staff be considered by the Executive Committee and the Council.
4. Burge moved that the minutes of the Executive Committee actions of May 23rd be reworded to reflect an Executive Committee recommendation that, as an incentive to present employees to continue employment until the date the Fort Smith office is closed, those employees who do remain until the Fort Smith office is closed would receive one month's termination pay for each year of service from April 1, 1984, to closing date, with prorating of time less than a year. The motion was approved by the Council. The Council then voted approval of the action of the Executive Committee (Item 4 of the May 23 minutes) as amended.
5. The executive vice president presented a recommendation to the Council that it accept a proposed two-year lease on 940 square feet of office space in the Plaza West Building for the September 1 opening of the branch office in Little Rock. The lease rate is $10.50 per square foot, which includes parking, utilities, and janitorial services. The Council accepted the proposed lease pending review and approval by legal counsel.
6. The executive vice president discussed the Shuffield Trust Fund to finance an annual Shuffield lecture at the annual meeting of the Arkansas Medical Society. He reported that the fund balance was presently under $10,000 and suggested a Society contribution to the fund. The Council voted to authorize sufficient monies, not to exceed $1,000, to raise the Elvin Shuffield Lecture Fund to the sum of $10,000.
7. The Council voted to contribute $618 to Med Camps to sponsor two children to the 1984 summer camps and to support the pool fund.
8. Mrs. Deno Pappas, president of the Arkansas Medical Society Auxiliary, discussed the MEDVOTE project sponsored by the AMA and AMA Auxiliary—a voter registration drive for physicians and members of physicians' families and an effort to get participation of physicians and their families in the electoral process. The Council voted to name Mrs. James Weber of Jacksonville to chair the MEDVOTE campaign for the State of Arkansas.
9. The executive vice president discussed the current lease on the office space in Fort Smith which extends to January 1, 1986, and the sub-lease to the Arkansas Foundation for Medical Care of 2,500 square feet of space which will be terminated by the Foundation in September 1984. He suggested negotiation with the building owner regarding termination of the Society's lease prior to January 1, 1986. The Council voted to leave the decision on termination of the lease up to the Executive Committee.

The meeting adjourned at 1:35 p.m.

APPROVED: J. Larry Lawson, M.D.
Chairman

NOTE: The regular business session of the Council was followed by an executive session. Actions taken during the executive session were recorded separately and will be covered by separate minutes.



LETTERS TO THE EDITOR

June 29, 1984
Alfred Kahn, Jr., M.D.
Editor,
The Journal of the Arkansas Medical Society
1300 W. 6th St.
Little Rock, AR 72201

Dear Dr. Kahn:

We read with interest a recent article in The Journal concerning cerebral vascular disease (Barnes, R. W.: Advances in Management of Peripheral Vascular Disease, The Journal of the Arkansas Medical Society, 81: 90-93, 1984). In this article, Dr. Barnes outlined his approach to the management of the patient with cerebral vascular disease. We would like to add our own comments regarding the neurosurgical management of similar problems and the reasons for this approach.

In the article, Dr. Barnes states that, "Recent advances in digital subtraction angiography have permitted intravenous injection of contrast material with imaging of major extracranial and intracranial vessels with details suitable for planning operative intervention". Although we have also utilized selective *arterial* digital subtraction to evaluate patients with neurological symptoms consistent with transient cerebral ischemia, we have found the *intravenous* route to be inadequate. Using intravenous digital subtraction technique, there is an unacceptable overlap of the images of the intracranial vessels, particularly in the lateral projections. We feel that definitive interpretation of the study is inadequate for planning operative procedures for the correction of either extra or intracranial vascular disease. We have also recently had the unfortunate experience of surgically exploring a normal carotid artery following an intravenous digital study; multiple views of this vessel were interpreted as demonstrating a very high grade stenosis, when indeed we were seeing vessel overlap. We therefore continue to utilize conventional selective cerebral angiography for the evaluation of patients with suspected cerebral vascular disease.

We differ in other ways from Dr. Barnes in our approach to cerebral vascular problems. Almost all patients with proposed cerebral vascular disease require a CT scan, in order to rule out other disease which may mimic transient cerebral ischemia. Subdural hematoma, brain tumor, giant intracranial aneurysm, and occasionally even intracranial arteriovenous malformations may present with ischemic symptoms. These lesions may certainly be missed on the "routine" digital subtraction angiogram. Furthermore, in order to more perfectly evaluate the cerebral circulation prior to operation the small vessels must be adequately visualized to rule out problems such as cerebral arteritis or small vessel atherosclerosis.

Recent literature would suggest that approximately 25-35% of patients with transient neurologic dysfunction suggestive of cerebral ischemia will ultimately prove to have surgically correctable disease at the carotid bifurcation. All possible causes of the patient's neurologic problem must of course be carefully considered from the outset so that diagnosis and management may be properly planned. In the case of the patient with transient neurologic dysfunction believed due to vascular disease, we feel that a CT scan of the brain should be carried out first, followed by conventional selective arterial angiography.

Sincerely,

John R. Mawk, M.D.
Dept. of Neurosurgery
University of Arkansas for Medical Sciences
Michael W. Brown, M.D.
Dept. of Neurosurgery
University of Arkansas for Medical Sciences



PERSONAL AND NEWS ITEMS

DR. FINLEY LOCATES

Dr. George M. Finley has joined the Hope Doctors Clinic at 405 West 16th in Hope for the practice of Family Medicine.

DR. RUSSELL IN BLYTHEVILLE

Dr. James D. Russell, formerly of Arkadelphia, has moved to Blytheville. He has joined Dr. Merrill J. Osborne for the practice of Family Medicine at 10th and Highland, Suite D.

DR. BILLIE APPOINTED

Dr. James D. Billie of Little Rock has been appointed to the Plastic and Reconstructive Committee of the American Academy of Otolaryngology-Head and Neck Surgery. He will serve until 1988.

Dr. Billie has entered a Cosmetic Surgery Fellowship with Dr. Julius Newman in Philadelphia. He will resume his practice in Little Rock in July 1985.

DR. GILLI IN CLARENDON

Dr. William E. Gilli has joined the Mid-Delta Rural Health Clinic at Clarendon under the auspices of the National Health Service Corps.

DR. WRIGHT IN HOT SPRINGS

Dr. Charles C. Wright, Jr., has joined Dr. Philip A. Woodward at 903 West Grand Avenue in Hot Springs for the practice of Urology.

DR. CHAUHAN ELECTED CHIEF

Dr. M. A. Chauhan of Newport has been elected chief-of-staff of Harris Hospital in Newport for the 1984-85 fiscal year. Dr. Guilford Dudley has been elected chief-of-staff-elect.

DR. FAIRCHILD LOCATES

Dr. William V. Fairchild has opened an office for the practice of Urology at 2101 Green Acres Road in Fayetteville.

DRS. SHROFF AND PANDIT

Drs. R. K. Shroff and S. K. Pandit have joined Dr. K. K. Jayaraman at The Heart Clinic for the practice of Cardiology. The clinic is located at 2513 Malvern in Hot Springs.

DR. BRAINARD SPEAKS

Dr. Jay O. Brainard of Little Rock spoke on ocular problems and management of facial nerve palsies at the First Annual Meeting of the Arkansas Acoustic Neuroma Association.

DR. OATES IN SPRINGDALE

Dr. Randall Oates has joined the Springdale Clinic at Meadow Avenue and Blair Street for the practice of Family Medicine.

DR. POST IN MORRILTON

Dr. Peter Post has joined Dr. Michael Koone for the practice of Family Medicine at #2 Hospital Drive in Morrilton.

DR. GUENTHNER RETIRES

Dr. John F. Guenthner of Mountain Home recently announced his retirement after fifty-four years of practice.

DR. WESLEY KLUCK IN ARKADELPHIA

Dr. Kluck has opened the Arkadelphia Clinic for Children and Young Adults at 2850 Twin Rivers Drive in Arkadelphia.

DR. YEH LOCATES

Dr. William Yeh, a Radiologist, has joined DeQueen General Hospital.

DR. WESTBROOK NAMED DIRECTOR

Dr. Kent C. Westbrook of Little Rock has been named director of the Arkansas Cancer Research Center, a multi-disciplinary center for patient care, research and education at the University of Arkansas for Medical Sciences.

DR. MOFFITT JOINS CLINIC

Dr. Gary L. Moffitt has joined the Rogers Medical Center for Family Practice.

DR. HAYES IN WYNNE

Dr. Robert H. Hayes, Jr., has joined the Wynne Medical Clinic for the practice of Family Medicine.

DR. MILLER SPEAKS

Dr. Robert D. Miller, Jr., of Helena was guest speaker at the St. Luke A.M.E. Church as part of the annual Men's Day Program.

DR. BOISVERT

Dr. Craig Boisvert has joined the Des Arc Clinic under the auspices of North Arkansas Human Services System, Inc.

DR. DUFFNER IN FORT SMITH

Dr. David W. Duffner has opened an office at 7303 Rogers Avenue in Fort Smith for the practice of Orthopaedics.

DR. BRADLEY IN RUSSELLVILLE

Dr. Stanley C. Bradley has joined the Millard-Henry Clinic at 3105 West Main in Russellville. Dr. Bradley specializes in Family Medicine.

DR. WILSON SURVEYOR

Dr. Morton Wilson of Fort Smith has com-

pleted training in accreditation standards and survey procedures to become a surveyor of the Accreditation Association for Ambulatory Health Care, Inc.

DR. WRIGHT OPENS OFFICE

Dr. William J. Wright has opened an office at 211 Hobson Avenue in Hot Springs for the practice of Internal Medicine.

DR. ELKINS IN ARKADELPHIA

Dr. John S. Elkins has opened the Arkadelphia Women's Clinic at 2850 Twin Rivers Drive in Arkadelphia.

DR. BANISTER DIRECTOR

Dr. Bob Banister of Conway has been named to the Board of Directors of the First State Bank and Trust Company in Conway.

DR. GOCIO LOCATES

Dr. Allan C. Gocio has joined Dr. James M. Arthur for the practice of Neurosurgery at 100 Ridgeway in Hot Springs.

EUREKA SPRINGS GAINS PHYSICIANS

Dr. Greg Kresse, a Family Physician, and Dr. Gary Wright, a Pediatrician and Allergist, have opened the Eureka Springs Family Health Center.

DR. BECTON IN ROGERS

Dr. Paul Becton, Jr., has joined Drs. James P. Elkins and A. R. Addington at the Rogers Clinic for Women, 1116 Poplar Place in Rogers. Dr. Becton specializes in Obstetrics and Gynecology.

DR. REID OPENS OFFICE

Dr. Ishmael S. Reid has opened an office at 817 Cherry Street in Pine Bluff for the practice of Hematology, Oncology and Internal Medicine.

DR. CITTY IN PANAMA

Dr. Jim Citty of Searcy participated in a nine-day medical missions trip, the Panama Campaigns, in an effort to bring relief to inhabitants of the San Blas Islands off the eastern coast of Panama.

DR. JOHN H. CRABTREE

Dr. Crabtree has joined Dr. James W. Campbell at the Hot Springs Surgery Clinic at 236 Central Avenue. Dr. Crabtree practices General, Thoracic and Vascular Surgery.

DR. BARR IN WEST MEMPHIS

Dr. Marian Barr, who specializes in Internal Medicine, has opened an office at 228 Tyler in West Memphis.

DR. CLARK

Dr. Robert B. Clark has joined Drs. Martin A. Koehn and John B. Simpson for the practice of Family Medicine at 328 Quapaw in Hot Springs.



DR. DAVID P. GRAY

Dr. Gray, a native of Kankakee, Illinois, has joined the Craighead-Poinsett County Medical Society. He received a Bachelor of Science degree in 1974 from the University of Illinois. Dr. Gray was graduated from Northwestern Medical School in Chicago in 1978.

He served a Straight Medicine internship with Ohio State University Hospital. Dr. Gray received residency training in Internal Medicine from 1979 to 1980 at Memorial Hospital of Northwestern University and from 1982-83 at the Ohio State University Hospital. He was in a Hematology and Oncology fellowship at Ohio State University Hospital from 1980 to 1982.

Dr. Gray has joined the Northeast Arkansas Internal Medicine Clinic at 311 East Matthews in Jonesboro.

DR. ROGER D. HILL

Dr. Hill is another new member of the Craighead-Poinsett County Medical Society. He was born in Selmer, Tennessee. He is a 1969 graduate of Union University in Jackson, Tennessee; he received a Bachelor of Science in Chemistry. Dr. Hill was graduated from the University of Tennessee Center for the Health Sciences in Memphis in 1972.

His internship was with the University of Tennessee and the City of Memphis Hospital. Dr. Hill served his residency at the University of Tennessee Center for the Health Sciences.

Dr. Hill has served as an Assistant Professor of Medicine at the University of Tennessee Center for the Health Sciences and as Director of the Cardiac Catheterization Laboratory at the Memphis Veterans Administration Medical Center.

Dr. Hill is board certified in Cardiovascular Diseases and Internal Medicine.

He has joined the Northeast Arkansas Internal Medicine Clinic at 311 East Matthews in Jonesboro for the practice of Cardiology.

DR. LEWIS C. LYONS

Dr. Lyons was born in Corning, New York. He is also a new member of the Craighead-Poinsett County Medical Society.

He received a Bachelor of Science degree in 1976 from Arkansas State University. He is a 1980 graduate of the University of Arkansas College of Medicine. Dr. Lyons served his Family Practice residency from 1980 to 1983. He is certified by the American Board of Family Physicians.

Dr. Lyons practiced in Leachville before moving to Jonesboro.

He specializes in Family Practice at 3100 Apache Drive in Jonesboro.

DR. CECIL W. CUPP, III

Dr. Cupp has joined the Garland County Medical Society. He was born in Arkadelphia.

Dr. Cupp received a Bachelor of Arts degree from Hendrix College in Conway in 1975. He is a 1979 graduate of the University of Arkansas College of Medicine. His internship was with the University of Arkansas College of Medicine and the Baptist Medical Center. He served a residency from 1980 to 1983 with the Department of Radiology at the University of Tennessee Center for Health Sciences in Memphis.

He specializes in Diagnostic Radiology. His office is at 911 West Grand in Hot Springs.

DR. DAVID R. MORRISON

Dr. Morrison, another new member of Garland County Medical Society, was born in Jerusalem, Palestine.

Dr. Morrison served with the United States Army Infantry from 1944 to 1946.

He received a Bachelor of Science in Chemistry from Monmouth College, Illinois, in 1947. Dr. Morrison is a 1951 graduate of the Loyola University Stritch School of Medicine. His internship and residency training in Pediatrics were with St. Francis Hospital in Evanston, Illinois.

Before moving to Arkansas, Dr. Morrison was in private practice in West Chicago for 18 years, on the staff of the Kansas State University in Manhattan for 3 years, with the Hilton-Davis Chemical Company in Cincinnati, Ohio, for 4 years, and with the John Deere Dubuque Works in Dubuque, Iowa, for 4 years.

Dr. Morrison specializes in General Practice and Occupational Medicine. He is associated with Reynolds Metals Company in Malvern.

DR. PAUL J. HERGENROEDER

Dr. Hergenroeder has joined the Jackson County Medical Society. He was born in Cleveland, Ohio.

Dr. Hergenroeder was graduated from the University of Notre Dame with a Bachelor of Arts degree in 1970. He is a 1974 graduate of the Georgetown University School of Medicine. His training in Obstetrics and Gynecology was at Georgetown University Hospital. Dr. Hergenroeder served as a clinical professor at Georgetown University Hospital.

Before moving to Arkansas, Dr. Hergenroeder practiced for seven years in Falls Church, Virginia.

He specializes in Obstetrics and Gynecology at 109 Laurel Street in Newport.

DR. ROLAND C. REYNOLDS

Dr. Reynolds is a new member of the Jackson County Medical Society. He was born in Shreveport, Louisiana.

Dr. Reynolds received a B.S. degree from Harding College in 1970. He is a 1973 graduate of the University of Arkansas School of Medicine. His internship was with Baptist Hospital in Little Rock. He is board certified in Family Practice.

Dr. Reynolds practiced four years in Jonesboro and has been practicing in Newport for seven years.

Dr. Reynolds specializes in Family Practice. His office is in the Newport Clinic at 2000 McLain in Newport.

DR. JOHN V. DeFAZIO, JR.

Dr. DeFazio, a new member of Miller County Medical Society, was born in Hamilton, Ohio.

He received a B.S. in Biology in 1966 from Xavier University in Cincinnati, Ohio, and an M.S. in Zoology in 1969 from Michigan State University in East Lansing, Michigan. Dr. DeFazio is a 1976 graduate of the Wayne State University School of Medicine in Detroit, Michigan. He joined the United States Navy in 1976. His internship and residency were with the Naval Regional Medical Center in Jacksonville, Florida.

Dr. DeFazio served with the Naval Regional Medical Center in Jacksonville, Florida, from 1979 to 1982 and practiced in Lewisville, Arkansas, before locating in Texarkana.

Dr. DeFazio is a board certified Family Physi-

cian. He is associated with the Southern Clinic at 300 East 6th Street in Texarkana.

* * * *

The Pulaski County Medical Society has added six new members to its roll:

DR. ROBERT B. CASPER

Dr. Casper was born in Jackson, Mississippi. He is a 1974 graduate of Belhaven College in Jackson, Mississippi, and a 1981 graduate of the University of Mississippi School of Medicine. He served a Family Practice residency with the University of Arkansas College of Medicine.

Dr. Casper has joined the Family Clinic at 4202 South University in Little Rock for the practice of Family Medicine.

DR. DONALD S. CHAMBERS

Dr. Chambers, a native of Little Rock, received his pre-medical education at the University of Arkansas in Fayetteville. He is a 1961 graduate of the University of Arkansas College of Medicine.

He served a rotating internship at Flower Hospital in Toledo, Ohio. His residency training in Psychiatry was with Washington University and the Barnes Hospital in St. Louis, Missouri, from 1965 to 1968. He is board certified in Psychiatry.

Dr. Chambers practiced in Fort Smith from 1968 to 1980. He served with the United States Navy from 1980 to 1984.

Dr. Chambers specializes in Psychiatry. His office is located in Suite 140 at #1 St. Vincent's Circle in Little Rock.

DR. JOHN C. GOCIO

Dr. Gocio was born in Bentonville. He received a Bachelor of Science degree and a Bachelor of Arts degree in 1971 and a Juris Doctor degree in 1975 from the University of Arkansas at Fayetteville.

Dr. Gocio is a 1979 graduate of the University of Arkansas College of Medicine. He received his training in General Surgery at the University from 1979 to 1984.

Dr. Gocio specializes in General Surgery. He has joined the Surgical Clinic at 990 Medical Towers Building in Little Rock.

DR. R. STEPHEN TUCKER

Dr. Tucker was born in White County, Arkansas. He was graduated from Harding University in Searcy in 1975 and from the University of Arkansas College of Medicine in 1981.

He served his Family Practice residency with the Area Health Education Center in El Dorado.

Dr. Tucker specializes in Family Practice. His office is located at 424 North University in Little Rock.

DR. A. D. WILLIAMS

Dr. Williams was born in West Helena. He received a Bachelor of Science degree from Arkansas State University in 1973. He was graduated in 1979 from the University of Arkansas College of Medicine.

Dr. Williams served an Internal Medicine internship and residency at the University. He was in a Gastroenterology Fellowship from 1982 to 1984. He is board certified in Internal Medicine.

Dr. Williams specializes in Gastroenterology. His office is in the Freeway Medical Towers Building at 5810 West 10th in Little Rock.

DR. SINCLAIR W. ARMSTRONG

Dr. Armstrong, a native of Fort Smith, has joined the Sebastian County Medical Society. He is a 1970 graduate of the University of Oklahoma College of Medicine.

Dr. Armstrong practices Urology at 720 Lexington in Fort Smith.

DR. WILLIAM T. HENRY

Dr. Henry, a native of Little Rock, is a 1972 graduate of the University of Arkansas in Fayetteville and a 1976 graduate of the University of Arkansas College of Medicine.

Dr. Henry served his internship at St. John's Mercy Hospital in St. Louis, Missouri, and returned to the University of Arkansas for his Radiology residency. He served a fellowship in Radiology at Emory Medical Center in Atlanta, Georgia. Dr. Henry is board certified in Radiology.

He has joined Radiology Consultants, 1100 Medical Towers Building in Little Rock.

DR. FRANK C. MILLER

Dr. Miller is the Chairman of the Department of Obstetrics and Gynecology at the University of Arkansas College of Medicine.

Dr. Miller, a native of Murray, Kentucky, was graduated from Murray State College in 1958 and from the University of Louisville School of Medicine in 1962. His first year of training was with St. Joseph Infirmary in Louisville, Kentucky. Dr. Miller trained in Surgery from 1965 to 1966 at the United States Army Hospital in Fort Campbell, Kentucky. His training in Obstetrics and Gynecology was with Tripler General Hospital in Honolulu, Hawaii, from 1966 to 1969.

Dr. Miller has served as an Associate Professor of Obstetrics and Gynecology at the University of

Southern California in Los Angeles, as a member of the staff in the Department of Obstetrics and Gynecology at the University of the Health Sciences in Washington, D. C., as Chief of Obstetrics in the Department of Obstetrics and Gynecology at Walter Reed Army Medical Center and as Chief of Obstetrics and Gynecology at the Second General Hospital in Landstulh, Germany.

He is board certified in Obstetrics and Gynecology and in Maternal-Fetal Medicine.

Dr. Miller joined the staff at the University of Arkansas College of Medicine in 1983.

OBITUARY

DR. WILFRED J. SCHWARZ

Dr. Schwarz was born July 24, 1909, in Highland, Illinois. He died July 25, 1984.

Dr. Schwarz was a 1934 graduate of the University of Arkansas College of Medicine. He was a life member of the Pulaski County Medical Society, the Arkansas Medical Society and the American Medical Association and a fellow of the Academy of Ophthalmology.

Dr. Schwarz practiced in Little Rock until his retirement from medicine in 1983.

He is survived by his wife, Mrs. Frances Cain Schwarz, one son and two daughters.

THINGS TO COME

October 22-27

36th Annual Workshops and Scientific Program of the Society for Clinical and Experimental Hypnosis, Inc. Co-sponsored by Medical School, Departments of Pediatrics and Psychiatry of The University of Texas Health Science Center at San Antonio. Hilton Palacio de Rio, San Antonio, Texas. 30 hours Category I, AMA. 30 elective hours by AAFP.

For further information, contact Marion Kenn, Administrative Director, SCEH, 129A Kings Park Driver, Liverpool, New York 13088.

October 24

Workshop on Behavioral Management of Persons with Alzheimer's Disease and Other Dementias. Missouri Institute of Psychiatry, St. Louis University Department of Geriatric Psychiatry, and the St. Louis Chapter of Alzheimer's Disease and Related Disorders Association. St. Louis State Hospital Complex. Registration $50. 6.25 Category I AMA. For further information, contact Missouri Institute of Psychiatry Continuing Education — 047, 5400 Arsenal Street, St. Louis, Missouri 63139; telephone 314-644-8803.

October 25

First Annual Missouri Conference on Mental Health and Women: Special Needs and Issues. University of Missouri — Columbia, Missouri Institute of Psychiatry, University of Missouri — Kansas City and the Missouri Department of Mental Health. Alameda Plaza Hotel, Kansas City, Missouri. Registration $35. 5.75 Category I AMA. For further information, contact Missouri Institute of Psychiatry Continuing Education — 047, 5400 Arsenal Street, St. Louis, Missouri 63139; telephone 314-644-8803.

* * * *

The University of Missouri—Columbia School of Medicine and Missouri Institute of Psychiatry have announced conferences to be held as follows:

October 5, 1984—Panic Disorders Conference, Springfield

October 26, 1984—Management of Acute Psychiatric Emergency, St. Louis

November 1, 1984—PreMenstrual Syndrome, St. Louis

November 15, 1984—PreMenstrual Syndrome, Springfield

November 8, 1984—III Annual Conference on Genetic Disorders, Kansas City

November 15, 1984—DMH Forensic Conference on Clinical Parole, St. Louis

November 20, 1984—DMH Workshop on Deinstitutionalization, St. Louis

For further information, contact the Institute at 5400 Arsenal Street, St. Louis, Missouri 63139; telephone 314-644-8803.

November 4-7

78th Annual Scientific Assembly of the Southern Medical Association. Rivergate, New Orleans, Louisiana. No registration fee for SMA members. For further information, contact Jeanette Stone at Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; telephone 205-323-4400.

1985

March 11-15

The Annual Meeting of the United States-Canadian Division of the International Academy of Pathology. Sheraton Centre, Toronto, Ontario. For further information, contact Dr. Nathan Kaufman, Secretary-Treasurer, United States—Canadian Division of the International Academy of Pathology, 1003 Chafee Avenue, Augusta, Georgia 30904; telephone 404-724-2973.

March to May

The Twenty-sixth Postgraduate Institute for Pathologists in Clinical Cytopathology sponsored by The Johns Hopkins University School of Medicine consists of two courses, both of which must be taken. Home Study Course A from March to May 1985. May 6-17 In-Residence Course B at the Johns Hopkins Medical Institutions, Baltimore, Maryland. 152 hours for AMA Category I. Application and pre-registration is advised before November 30, 1984; must be accomplished before April 5, 1985. For further information, contact John K. Frost, M.D., 604 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland 21205.

April 18-21

109th Annual Session of the Arkansas Medical Society. Arlington Hotel, Hot Springs.

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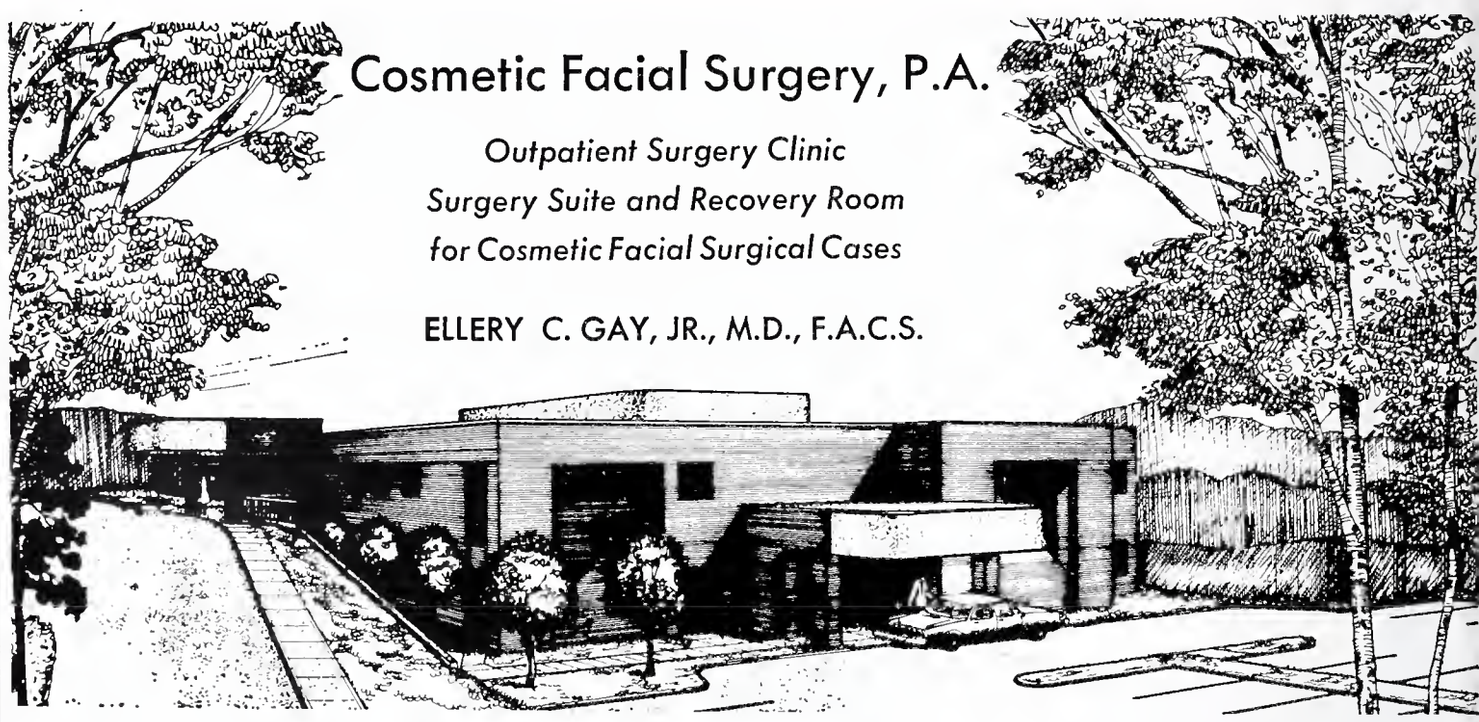
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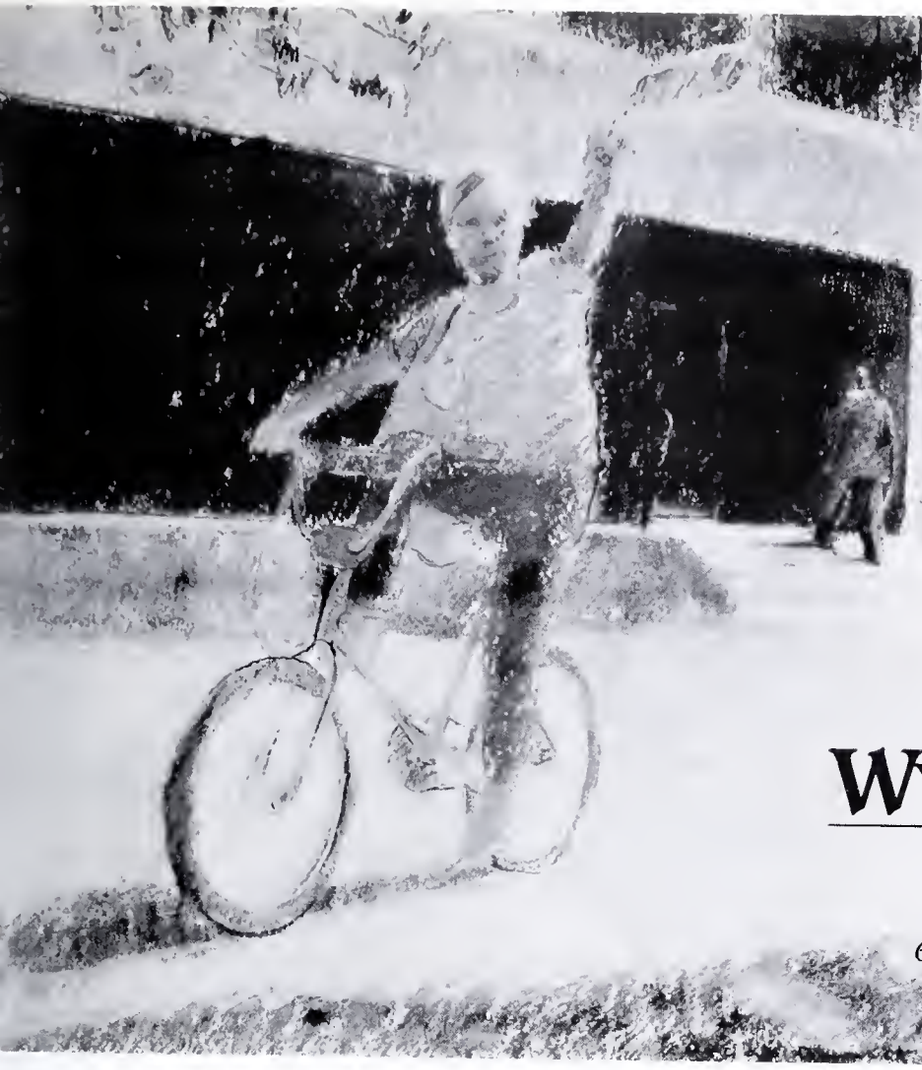
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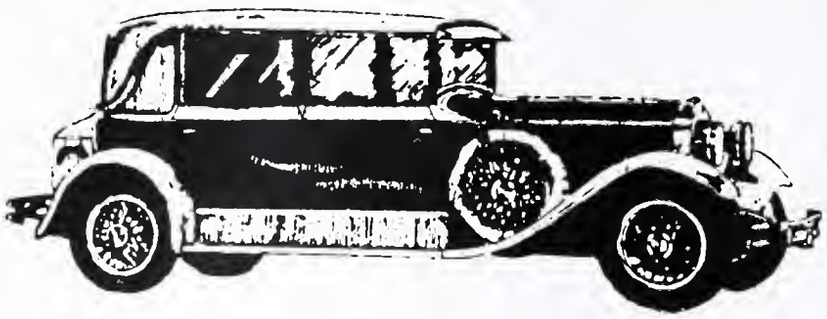
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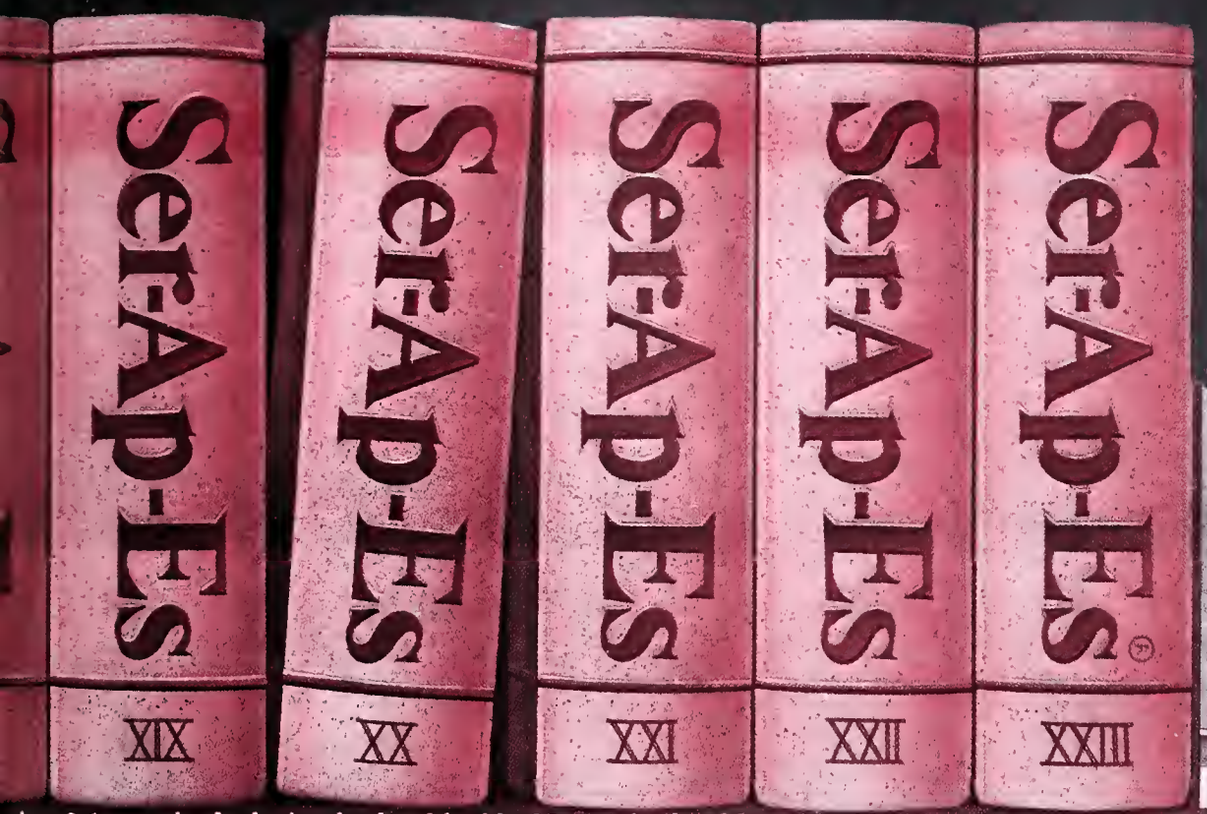
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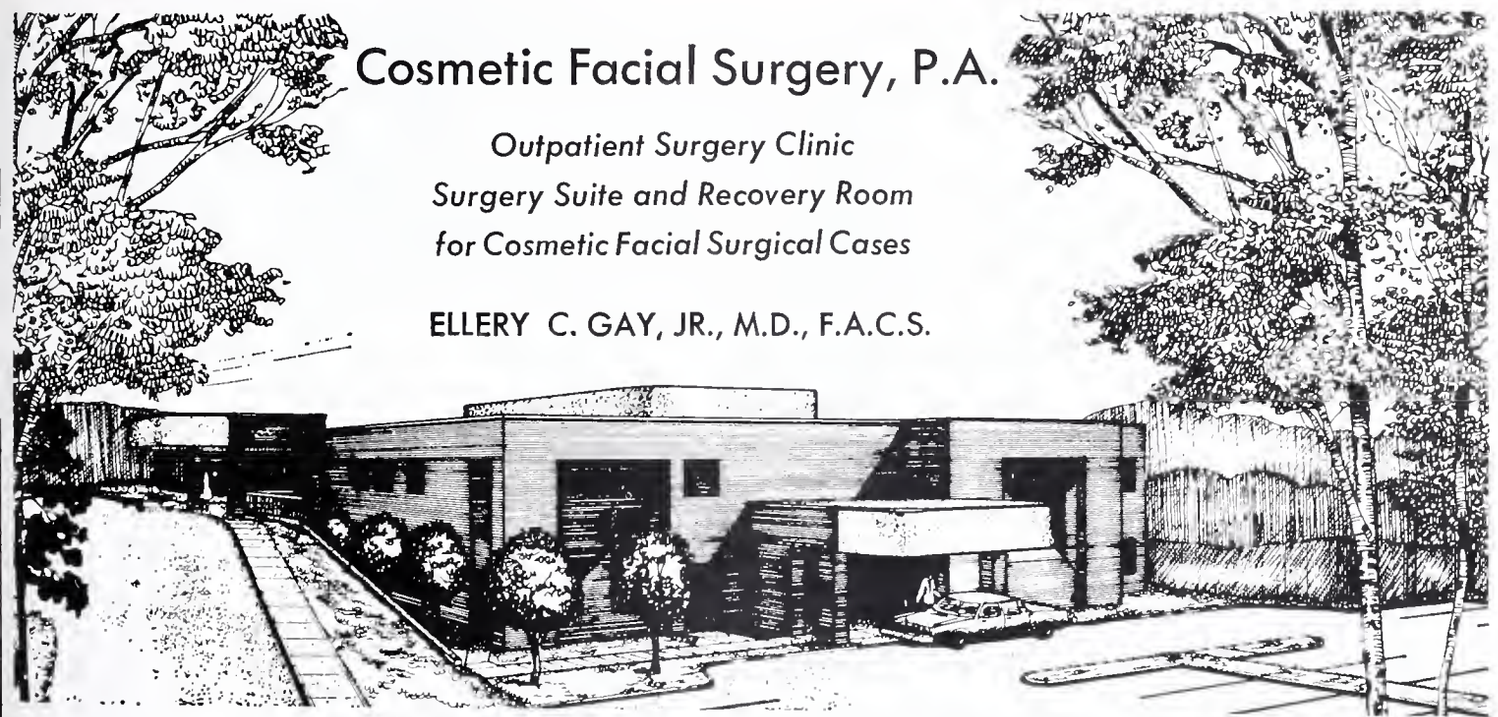
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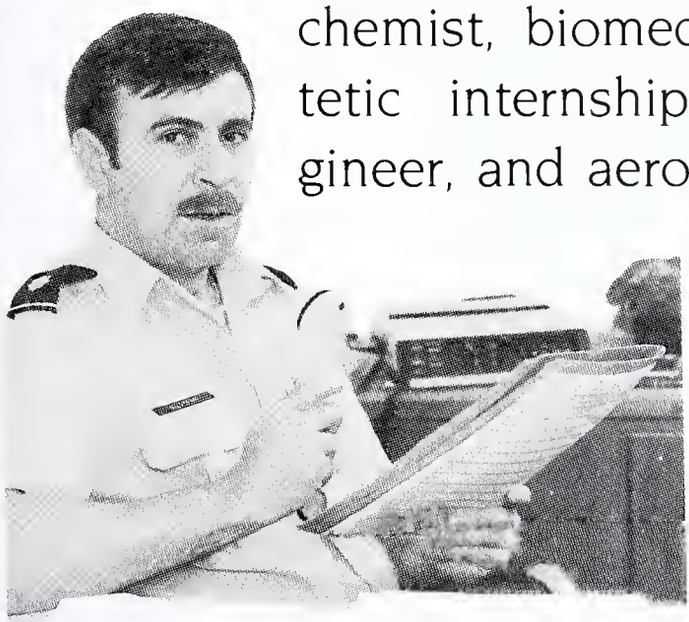
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Each tablet contains 200 mg meprobamate and 325 mg aspirin.

INDICATIONS:
Adjunct in short-term treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease. Clinical trials demonstrated that in these situations relief of pain is somewhat greater than with aspirin alone. Effectiveness in long-term use, i.e. over 4 months, has not been assessed by systematic clinical studies. Physicians should periodically reassess usefulness of drug for individual patients.

CONTRAINDICATIONS:
ASPIRIN: Allergic or idiosyncratic reactions to aspirin or related compounds.

MEPROBAMATE: Acute intermittent porphyria, allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromal.

WARNINGS:
ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE, DRUG DEPENDENCE: Physical and psychological dependence, and abuse have occurred. Chronic intoxication from prolonged ingestion of, usually, greater than recommendad doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, anorexia, or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation, symptoms usually cease within next 12- to 48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USAGE IN PREGNANCY AND LACTATION:
An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier, it is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic® (meprobamate with aspirin) is not recommended for patients 12 years of age and under.

PRECAUTIONS:
ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.

MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS:
ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.

GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSAGE AND ADMINISTRATION:
Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSAGE:
Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for avidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 grams meprobamate and survival with as much as 40 grams.

BLOOD LEVELS:
0.5-2.0 mg percent represents usual blood-level range of meprobamate after therapeutic doses. The level may occasionally be as high as 3.0 mg percent.

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected.

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration. Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

HOW SUPPLIED:
Scored tablets, bottles of 100, Redipak® strip pack 25's, Redipak® unit dose 100's, individually wrapped.

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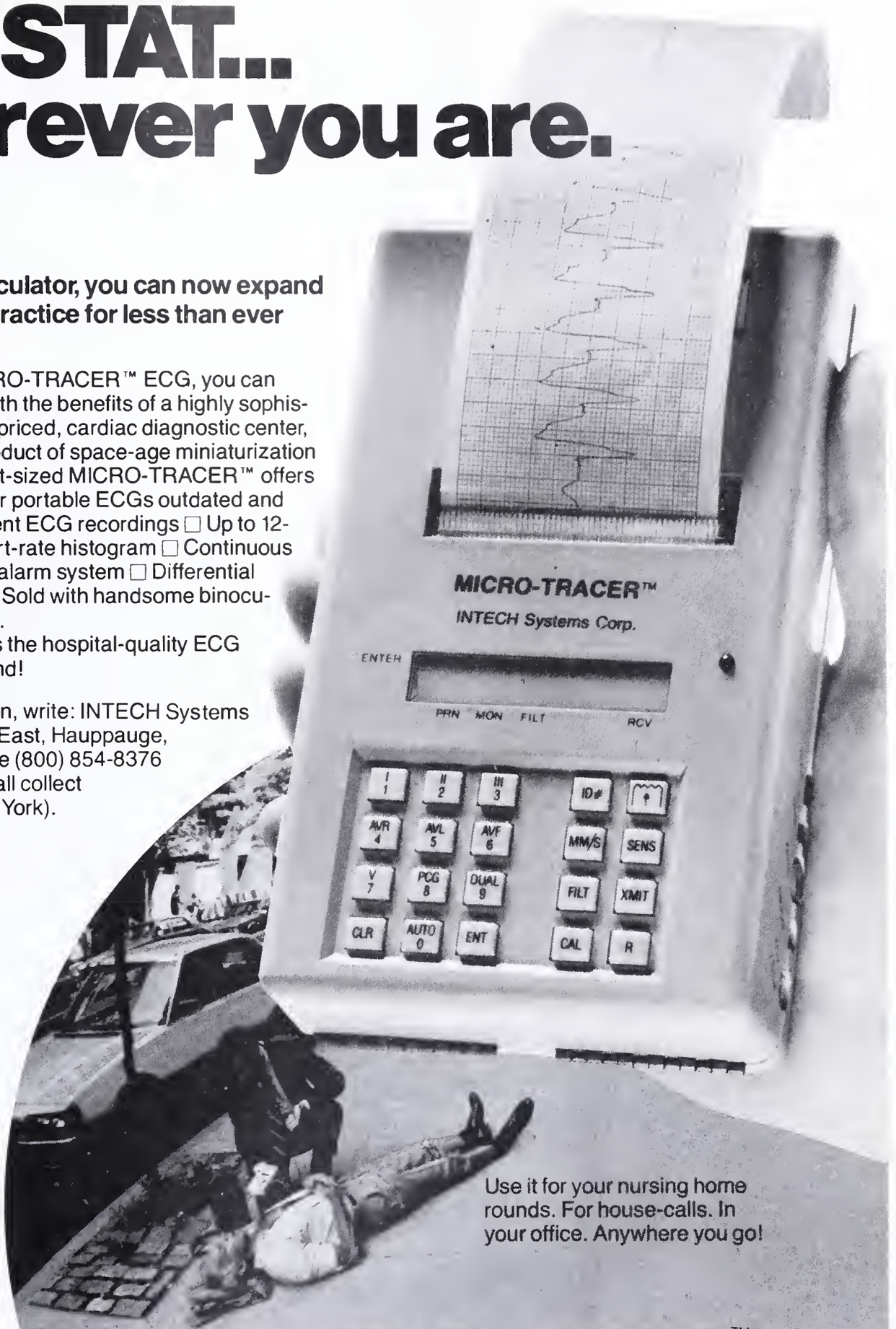
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New study reveals no interaction betwee



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In a study evaluating the influence of propoxyphene coadministration on the pharmacokinetics of the oxidatively metabolized benzodiazepines Xanax® (alprazolam) ℂ and Valium® (diazepam) ℂ, and a benzodiazepine metabolized by conjugation, Ativan® (lorazepam), the following results were reported:

with Xanax, propoxyphene caused a large and highly significant prolongation of half-life and impairment of total metabolic clearance.[1]

in the case of Valium, propoxyphene produced a small but not statistically significant impairment of clearance.[1]

propoxyphene had no apparent effect on the distribution, half-life or clearance of Ativan.[1]

In this randomized crossover study, eight healthy male and female volunteers received single oral doses of alprazolam (1 mg), six received single IV doses of diazepam (10 mg), and five received single IV doses of lorazepam (2 mg), once in a drug-free control state and again during coadministration of propoxyphene (65 mg q6h). Consistent with previous findings, this study evidences that Ativan does not interact with drugs that undergo oxidative metabolism.[2-5] In contrast to most other benzodiazepines, Ativan does not compete for the cytochrome P-450 enzyme system.

The clinical implications of the pharmacokinetic interaction, or non-interaction, of propoxyphene with benzodiazepines are not established by this study. Even without a pharmacokinetic interaction, propoxyphene and benzodiazepines share central depressant properties and therefore should be coadministered with suitable caution. A concurrent pharmacokinetic interaction indicates a need for even further caution. Coadministration of propoxyphene and alprazolam, for example, would produce not only the expected pharmacodynamic interaction, but also whatever additional central depressant effect would be produced by the elevated steady-state plasma concentrations of alprazolam due to its impaired clearance.

Caution should also be observed when propoxyphene is prescribed for patients who use alcohol to excess.

References

1. Abernethy DR, Greenblatt DJ, Shader RI: Data on file, Wyeth Laboratories.
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3. Abernethy DR, Greenblatt DJ, Divoll M, et al Psychopharmacology 80:275-278, 1983.
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Ativan® for (lorazepam) Ⓒ Ⓥ Anxiety

See **important information on following page.**



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DISTINCTIVE DESIGN® 0.5, 1.0 and 2.0 mg

Brief Summary of Prescribing Information.

Indications and Usage: Management of anxiety disorders or short-term relief of symptoms of anxiety or anxiety associated with depressive symptoms. Anxiety or tension associated with stress of everyday life usually does not require treatment with an anxiolytic.

Effectiveness in long-term use, i.e., more than 4 months, has not been assessed by systematic clinical studies. Reassess periodically usefulness of the drug for the individual patient.

Contraindications: Known sensitivity to benzodiazepines or acute narrow-angle glaucoma.

Warnings: Not recommended in primary depressive disorders or psychoses. As with all CNS-acting drugs, warn patients not to operate machinery or motor vehicles, and of diminished tolerance for alcohol and other CNS depressants.

Physical and Psychological Dependence: Withdrawal symptoms like those noted with barbiturates and alcohol have occurred following abrupt discontinuance of benzodiazepines (including convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Addiction-prone individuals, e.g. drug addicts and alcoholics, should be under careful surveillance when on benzodiazepines because of their predisposition to habituation and dependence. Withdrawal symptoms have also been reported following abrupt discontinuance of benzodiazepines taken continuously at therapeutic levels for several months.

Precautions: In depression accompanying anxiety, consider possibility for suicide.

For elderly or debilitated patients, initial daily dosage should not exceed 2mg to avoid oversedation. Terminate dosage gradually since abrupt withdrawal of any antianxiety agent may result in symptoms like those being treated: anxiety, agitation, irritability, tension, insomnia and occasional convulsions. Observe usual precautions with impaired renal or hepatic function. Where gastrointestinal or cardiovascular disorders coexist with anxiety, note that lorazepam has not been shown of significant benefit in treating gastrointestinal or cardiovascular component. Esophageal dilation occurred in rats treated with lorazepam for more than 1 year at 6mg/kg/day. No effect dose was 1.25mg/kg/day (about 6 times maximum human therapeutic dose of 10mg/day). Effect was reversible only when treatment was withdrawn within 2 months of first observation. Clinical significance is unknown, but use of lorazepam for prolonged periods and in geriatrics requires caution and frequent monitoring for symptoms of upper G.I. disease. Safety and effectiveness in children under 12 years have not been established.

ESSENTIAL LABORATORY TESTS: Some patients have developed leukopenia; some have had elevations of LDH. As with other benzodiazepines, periodic blood counts and liver function tests are recommended during long-term therapy.

CLINICALLY SIGNIFICANT DRUG INTERACTIONS: Benzodiazepines produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

CARCINOGENESIS AND MUTAGENESIS: No evidence of carcinogenic potential emerged in rats during an 18-month study. No studies regarding mutagenesis have been performed.

PREGNANCY: Reproductive studies were performed in mice, rats, and 2 strains of rabbits. Occasional anomalies (reduction of tarsals, tibia, metatarsals, malrotated limbs, gastroschisis, malformed skull and microphthalmia) were seen in drug-treated rabbits without relationship to dosage. Although all these anomalies were not present in the concurrent control group, they have been reported to occur randomly in historical controls. At 40mg/kg and higher, there was evidence of fetal resorption and increased fetal loss in rabbits which was not seen at lower doses. Clinical significance of these findings is not known. However, increased risk of congenital malformations associated with use of minor tranquilizers (chlordiazepoxide, diazepam and meprobamate) during first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, use of lorazepam during this period should almost always be avoided. Possibility that a woman of child-bearing potential may be pregnant at institution of therapy should be considered. Advise patients if they become pregnant to communicate with their physician about desirability of discontinuing the drug. In humans, blood levels from umbilical cord blood indicate placental transfer of lorazepam and its glucuronide.

NURSING MOTHERS: It is not known if oral lorazepam is excreted in human milk like other benzodiazepines. As a general rule, nursing should not be undertaken while on a drug since many drugs are excreted in milk.

Adverse Reactions, if they occur, are usually observed at beginning of therapy and generally disappear on continued medication or on decreasing dose. In a sample of about 3,500 anxious patients, most frequent adverse reaction is sedation (15.9%), followed by dizziness (6.9%), weakness (4.2%) and unsteadiness (3.4%). Less frequent are disorientation, depression, nausea, change in appetite, headache, sleep disturbance, agitation, dermatological symptoms, eye function disturbance, various gastrointestinal symptoms and autonomic manifestations. Incidence of sedation and unsteadiness increased with age. Small decreases in blood pressure have been noted but are not clinically significant, probably being related to relief of anxiety.

Transient amnesia or memory impairment has been reported in association with the use of benzodiazepines.

Overdosage: In management of overdosage with any drug, bear in mind multiple agents may have been taken. Manifestations of overdosage include somnolence, confusion and coma. Induce vomiting and/or undertake gastric lavage followed by general supportive care, monitoring vital signs and close observation. Hypotension, though unlikely, usually may be controlled with Levarterenol Bitartrate Injection U.S.P. Usefulness of dialysis has not been determined.

Ativan® (IV) **for** (lorazepam) **Anxiety**

DOSAGE: Individualize for maximum beneficial effects. Increase dose gradually when needed, giving higher evening dose before increasing daytime doses. Anxiety, usually 2-3mg/day given b.i.d. or t.i.d.; dosage may vary from 1 to 10mg/day in divided doses. For elderly or debilitated, initially 1-2mg/day; insomnia due to anxiety or transient situational stress, 2-4mg h.s.

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For additional information, contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

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Chronic studies in rats and monkeys have shown mild renal toxicity with papillary edema and necrosis. Renal papillary necrosis has rarely been shown in humans treated with *Motrin* Tablets.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue *Motrin* Tablets and the patient should have an ophthalmologic examination, including central visual fields and color vision testing.

Fluid retention and edema have been associated with *Motrin* Tablets; use with caution in patients with a history of cardiac decompensation or hypertension. In patients with renal impairment, reduced dosage may be necessary. Prospective studies of *Motrin* Tablets safety in patients with chronic renal failure have not been done.

Motrin Tablets can inhibit **platelet aggregation** and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and on anticoagulant therapy.

Patients should report signs or symptoms of **gastrointestinal ulceration** or bleeding, skin rash, weight gain, or edema.

Patients on prolonged **corticosteroid therapy** should have therapy tapered slowly when *Motrin* Tablets are added.

The antipyretic, anti-inflammatory activity of *Motrin* Tablets may mask inflammation and fever.

As with other nonsteroidal anti-inflammatory drugs, borderline elevations of liver tests may occur in up to 15% of patients. These abnormalities may progress, may remain essentially unchanged, or may be transient with continued therapy. Meaningful elevations of SGPT or SGOT (AST) occurred in controlled clinical trials in less than 1% of patients. Severe hepatic reactions, including jaundice and cases of fatal hepatitis, have been reported with ibuprofen as with other nonsteroidal anti-inflammatory drugs. If liver disease develops or if systemic manifestations occur (e.g. eosinophilia, rash, etc.), *Motrin* should be discontinued.

Drug interactions. *Aspirin:* used concomitantly may decrease *Motrin* blood levels.

Coumarin: bleeding has been reported in patients taking *Motrin* and coumarin.

Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy or by nursing mothers.

Adverse Reactions: The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal of which one or more occurred in 4% to 16% of the patients.

Incidence Greater than 1% (but less than 3%)—Probable Causal Relationship

Gastrointestinal: Nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness,* headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite; **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation; see PRECAUTIONS).

Incidence less than 1%—Probable Causal Relationship**

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting; anaphylaxis; bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with pre-existing significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria; **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence less than 1%—Causal Relationship Unknown**

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmias (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under *"Probable Causal Relationship (PCR)"* if there has been one positive rechallenge or if three or more cases occur which might be causally related. Reactions are classified under *"Causal Relationship Unknown"* if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine so alkaline diuresis may be beneficial.

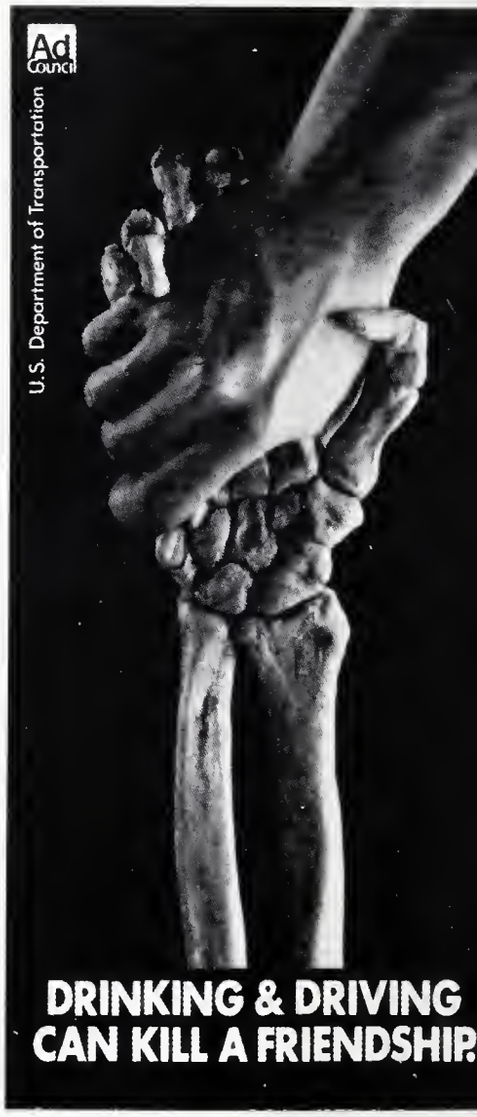
Dosage and Administration: Rheumatoid arthritis and osteoarthritis. Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary.

Caution: Federal law prohibits dispensing without prescription. MED B-7-S

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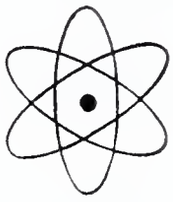
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Chronic Illness and the Family Physician

Kenneth G. Goss, M.D.*

The challenge of coping with chronic disease may be part of the life cycle of a family in any stage of its development. In the young family, it may be the birth of a mentally retarded infant; in the middle-age family it may be the child with diabetes or inflammatory bowel disease; or it may be a parent with senile dementia. Because the increase in numbers and proportion of elderly are a national and state phenomenon, much of what I say will refer to the problems of that segment of our population. Although aging increases the likelihood of a chronic disease occurring, I do not equate aging and disease, nor do I associate aging with infirmity. If an older person is not well, it is because he or she is ill, not because of old age.

Problems of Chronic Illness

Chronic diseases, if not the most common, certainly account for a large number of visits to primary care providers. There have been a number of studies of morbidity in primary care practices,[1-7] and although there are variations because of setting, the common chronic diseases appear in the top 15 diagnoses.

I mentioned that the numbers and proportion of elderly are increasing in this country and in Arkansas. In fact, the national average portion of population over 65 presently is 11%. In Arkansas, it is 14%, highest except for Florida with 17%. In good part, the increase in the number of elderly and so the magnitude of the problem of the chronically ill, is a product of our own efforts. It has been created by those of us who have contributed to lower infant mortality, to the control of infectious disease, to the continued development of antibiotics, to the improvement of anesthesia and of surgical care; factors increasing the numbers of our people who live to ages when chronicity of illness is more common. I also believe that our practice population tends to age as we do, and so provides us with increasing numbers of aging, infirm and chronically ill patients each year that we practice.

The effective care of patients with chronic disease requires a different set of attitudes, knowledge, and skills than does the care of the acutely ill patient. The nature of the illness is different. Acute disease moves quickly, is responsive to intervention, and its outcome is usually recovery. On the other hand, chronic diseases move slowly, respond poorly to intervention, and outcome is progressive deterioration and death.

I submit that we develop an aversion to patients with chronic disease early in our medical careers. The socialization of the medical student establishes "curing disease" as the primary goal and measure of success. This is also the expectation of a large portion of our society.[8] Any outcome, other than cure, implies "failure." The hospital base for training in residencies reinforces these negative reactions. Emphasis on inpatients as a model of chronic disease and aging most often seen give the young physician a distorted view of disease and of the chronically ill patient's ability to function.

Family Physicians and the Chronically Ill

These are some of the problems. What are the solutions? Why are family physicians well equipped to care for these patients? Family physicians, by inclination and by specialty definition, are dedicated to two precepts: to the care of the family, and to the continuity of that care. Both of these interests increase the likelihood of our having experience with patients who are chronically ill. Effective care of chronic illness requires attention to the whole person, another skill of family practice. In addition to efforts directed toward the physical problems caused by illness, one must hear and respond to the patient's emotional reaction to disease, its physical symptoms and the implications of the diagnosis. Additional difficulties arise in the patient's social sphere of function, including relationships within the fami-

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ly. It is helpful to see these three spheres as a dynamic system—interacting and interdependent, much as the slide shows.

For the physician to do all of this is not really possible, nor appropriate.[8] The solution is to use a team approach, with the family physician acting as coordinator. The team membership will expand and contract as needs vary and problems are solved, but may well include one or more specialty consultants, visiting nurses, therapists, social workers, clergy, and family members.

One might think of this larger team as a mix of several teams working in different levels of patient care. The specialty consultants as one team; the nurses, therapists and social workers as another; while the family and close friends provide the closest direct support. Efficient organization and utilization of these teams in the care of the patient will assure the quality of that care, and this is a skill which is basic to the training of family physicians and to their daily practice.

Of all the aspects of chronic illness, loneliness and social isolation are the most painful and the most treatable. Organizing the family helps provide the patient with relationships and provides the family members with a role and function in the patient's illness.[9,10] It is a great advantage to know the family, to attend to their concerns about the patient's illness, to educate them about the illness and how they can help, and to allay their often unspoken fears about contagion and heredity. I recall one family of a patient with cancer who were much more willing to help with the patient's care when they understood that the cancer was not contagious.

Comments and Suggestions

I would like to offer some positive comments and suggestions about the care of the chronically ill. In the care of acute diseases, one's attention focuses on the physical aspect of the patient's problem. A fracture set and cast, an acute infection incised and drained or treated with an appropriate antibiotic; the emotional and social problems are few and usually restricted to excuse from school or work and the relief of anxiety through understanding. It is in the care of patients over time, those with chronic disease, in whom the relationship between the patient and the physician are most important. As Balint[11] suggested, in these situations the doctor is the drug. It is to these patients that we give the most of ourselves, and it is from them that we get the most of our lasting professional returns.

I would like to return to my comments about the medical students' experiences. There is currently a local and national concern about the nature of medical school curricula. With Dean Bruce's leadership, our faculty has considered whether the pressure is too great, whether the emphasis has been too much on the accumulation of "facts" with short life span, and too little on the understanding of concepts and problem-solving. The conclusions have been affirmative and have led to changes in our curriculum and its delivery; the faculty are watching results of these changes with interest and a commitment to revision as needed.

One positive step is to provide medical students more experience with ambulatory patients. This will help reduce their distorted perception of chronic illness seen only from the perspective of inpatient care. Many patients with chronic disease, and most of the elderly, function very well; appreciation of this fact is necessary for a balanced and more positive view of these kinds of patients.

Patients with disease, acute or chronic, have an effect on the family.[9,10] Studies of the family and their utilization of physicians suggest that the healthy members of the family develop symptoms for which they seek medical attention in concert with acute exacerbation of the other family member's chronic disease. Appreciation of this fact helps the physician understand otherwise obscure symptoms.

I have observed an increase in the receptivity to preventive measures in these families. The members of a diabetic family are more likely to avoid dietary excess as they learn about their family member's illness. The family of a patient with lung cancer, those close to a patient with coronary artery disease, are more likely to improve their lifestyle. This may be the next step in the continuum that started with the control of infectious disease, increasing the number of persons living longer. Attention to "prevention" in the younger generation may well reduce the incidence of chronic disease as they grow older.

I have also observed that family involvement in the patient's care has a positive influence on the quality of that family's grieving. I believe that such persons are likely to have shorter and more

healthy grieving for the loss of a chronically ill family member because of their direct participation in the life of the patient. There seems to be less guilt; less regret for love and concern not shown.

The positive comments I have made have a common theme, and that theme is importance of relationships. The relationship of the multiple caregivers to each other, to the patient and to the family. The relationship of the family to the patient, the patient to the family; these are components of the equation that solves the major problems of the care of the chronically ill. As the physician, we have a unique opportunity to influence the development and healthy maintenance of these relationships. To do so, we need to know the family, the patient, the culture, and the community. We must learn the patient's strengths and weaknesses, and we need to see the patient in a biopsychosocial perspective.[12] To attempt to care only for the physical illness in the traditional biomedical model is to fail miserably and to relight all the negative feelings about chronic disease that led us to label such patients as "crocks", "gomers", "turkeys", or whatever may be the latest appellation for the patient whose disease process and its treatment are beyond our understanding and skill. We cannot "cure" diabetes, multiple sclerosis, hypertension or Parkinson's disease—we can't fix all the emotional and social problems they engender. We *can* recognize their existence, we *can* show that we care about the patient, and we *can* reap the surprising rewards of grateful patients—grateful for a little improvement in their mobility and the quality of their days.

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Headache: An Approach to the Pediatric Patient

Fereydoun Dehkharghani, M.D.,* and Yoland M. Condrey, M.D.**

ABSTRACT

One of the most frequent complaints in the pediatrician's or the family physician's office is headache. This paper represents a review of the literature concerning headache in children, in particular, the differential diagnosis to be considered. The first part of this paper addresses the appropriate classification of headache, the second, management of headaches in children.

INTRODUCTION

Incidence

Headache is a frequent symptom in pediatric patients. They, as well as adults, may have either functional or organic headache. Although making this distinction remains a difficult task even in the experienced clinician's practice. As cited by Rothner,[47] William Henry Day is credited with the original description of headache in children published in 1881 and many authorities today would agree with this assertion: "Headaches in the young are for the most part due to bad arrangement in the lives of children."

Although most children experience an occasional headache, chronic headache is definitely abnormal. Investigators estimate that only 5-13% of chronic recurrent headaches are organic. The pathogenesis and etiology of the remaining 97-95% remains speculative. Cephalgia (headache) is a symptom associated with, but not pathonomic for many disease processes which may be secondary to structural, physiologic, or psychological causes or to a combination of these. Neither the location nor the severity of the pain is a reliable predictor of the cause. Rarely will the patient have abnormalities demonstrated by computerized tomography (CT), electroencephalography (EEG), skull film or other specialized laboratory or radiologic examination that are not clinically suspected.

The incidence of headache in childhood is not exactly known, however, Billie (Ref.) reported that by age seven, 2.5% of children had frequent nonmigrainous headache, 1.4% had true migraine and 35% had other types of headaches. By age 15, the percentage with frequent nonmigrainous headache was 15.7%, 5.3% had true migraine and 54% had infrequent nonmigrainous headache.

CLASSIFICATION

No classification of headache is adequate, many disorders fit into several categories.[49] Headaches are classified variously depending upon location, presumed etiology, temporal pattern and pathophysiology. Rothner[47] categorized headache as: 1) acute, 2) chronic progressive, 3) chronic nonprogressive, and 4) acute recurrent. He further distinguishes extracranial from intracranial headaches and cites vascular and psychogenic headaches as examples of potential etiologies for headache. Saper[49] classifies headache into two major groups: *primary* in which head pain represents the clinical expression of physiological reactivity in the absence of persistent identifiable organic pathology (migraine, muscle contraction); *secondary* in which head pain occurs as a consequences of identifiable pathology (toxic, metabolic, structural, infectious, traumatic). Dalessio[16] divides headaches into three main groups: vascular (migraine, hypertensive), muscle contraction (cervical osteoarthritis, chronic myositis); traction and inflammatory (mass lesions, diseases of the eye, ears, teeth, infection).

ACUTE EXTRACRANIAL

Acute extracranial headache may be secondary to sinus disease, ocular abnormalities, dental lesions, systemic infections or trauma. Each of these causes will be discussed.

Sinusitis

Acute sinusitis especially of the maxillary sinuses present in 13% of patients as frontal headache.[35] Frequently associated clinical manifestations include cough, coryza, recurrent allergy, otitis media, fever, and tenderness over the sinuses. Sinus films are useful in establishing this diagnosis. Appropriate therapy includes antihistamines, antibiotics and avoidance of aggravating allergies.

Eye Disease

Ocular abnormalities, although frequently mentioned in the lay and professional literature concerning headaches are a relatively rare cause of headache.[31] In cases where refractive errors, astigmatism, or squint are present, the headaches are frontal and typically occur late in the afternoon or evening following extended reading,

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school work, or television viewing. Corneal abrasions in young children may be expressed as headache.[42] Headache associated with severe eye pain in either or both eyes may be the presenting symptom of childhood glaucoma. When these diagnostic possibilities are considered, appropriate office screening includes testing for visual acquity, the "cover test", careful examination of extra ocular muscle movement and visual fields, and fundoscopy for evidence of papilledema, optic nerve atrophy, or retinal detachment, with referral to an ophthalmologist, if indicated.

Dental Disorder

Children frequently have difficulty localizing pain, they may complain of headache, particularly in the frontal or temporal location, with or without accompanying jaw pain that would indicate malocculusion, abscessed or carious teeth, or temporomandibular joint (TMJ) abnormality. Occasionally, other signs such as fever, jaw swelling, enlarged regional lymph nodes or pain on palpation of the temporomandibular joint may suggest these diagnoses. Children with these findings should receive dental referrals.

Trauma

One of the most familiar causes of headaches is trauma to the cranium and associated structures. A relatively common example is "whiplash injury" of the neck with associated occipital, frontal or generalized headaches. Occipital neuralgia secondary to trampoline accidents, although uncommon, may also present as headache in children.[19] Relatively minor closed head trauma may be present with headaches, somnolence, irritability, vomiting, ataxia and even hemiparesis, all of which typically resolve without sequelae. The usual management includes careful observation, keeping in mind the possibility of intracranial hematoma, the administration of non-narcotic analgesics, and supportive care. Typically, post-traumatic headache is localized to the site of injury or to the opposite side of the head, as in contracoup injuries, and lasts only a few days. However, some patients may experience headache for several weeks. Two types of injury patterns are described. In the first form, symptoms are localized to the area of the injury, actual trauma is postulated to a nerve or brain tissue. Important differentials include skull fracture and leptomeningeal cyst. This is an infrequent complication of a closed head injury associated with a linear fracture usually seen when injury occurs prior to the 2-3 years of age. This cyst is most commonly localized in the parietal area and is associated with an unrecognized dural laceration several months to years after the initial skull trauma. The patient with a leptomeningeal cyst may have a scalp mass or, less often, a seizure disorder.[40] Usually analgesics, reassurance and careful follow-up exams are sufficient. In the second form, however, the post concussion syndrome protracted headache may be combined with personality changes, insomnia, irritability, poor memory and school problems. In general, headache that results from head trauma is often accompanied by other symptoms.[50] Appropriate management includes, excluding depressed skull fracture, subdural hematomas or other intracranial structural lesions. Careful serial examinations, mild analgesics for the relief of pain and reassurance are recommended.

Systemic Causes

As previously mentioned, not all causes of headache originate in the cranium. Headache of a generalized nature may accompany many of the febrile illnesses seen in the pediatric population, since increased temperature leads to a vasodilatation of cerebral vessels and can result in generalized headache. Some familiar diagnoses are pharyngitis, otitis media, bacterial or viral meningitis, pneumonia and less commonly tularemia, Rocky Mountain Spotted Fever, typhoid fever and infectious mononucleosis. Other systemic illness including anemia, hypoglycemia, and hypertension may cause headaches. A careful history which includes sleeping, eating, and elimination habits will frequently suggest the cause of headache in a child. Attention to the blood pressure should disclose the occasional child with hypertension as the cause for his headaches. Cervical spine erosion and malposition secondary to rheumatoid arthritis is a rare cause of headache in children.[19]

II. CHRONIC PROGRESSIVE TYPE

Brain Tumor

Perhaps the most worrisome feature in the differential diagnosis of headache in a child is brain tumor. Honig and Charney,[34] who reviewed 105 cases of pediatric brain tumor, reported headache as an associated finding in 69% of the children. The location of the headache was occipital in 28%, unilateral in 22% and

diffuse in 50%. Approximately one-third of the children reported a progressive increase in frequency or severity of their headaches. Associated findings included vomiting (frequently without nausea) and ocular or neurologic signs in 94% of the children with brain tumor at the time of their diagnosis. In this study, headaches was followed by abnormal neurologic or ocular findings within two weeks in 55% of the patients and within one month in 85%. Of particular concern are recurrent morning headaches that awaken the child from sleep. The occurrence of vomiting, particularly of recent onset, with a change in headache is considered highly suggestive of brain tumor. Documentation of weight loss or failure of linear growth is an important clue to pituitary dysfunction. A careful neurologic and opthalmoscopic examination is imperative with particular attention to visual acuity, pupillary function, visual fields, the presence of squint, diplopia, papilledema, head tilt, ataxia, decreased grip strength on one side, past pointing, presence of posturing, absence of superficial abdominal or deep tendon reflexes or the presence of hyperreflexia.

The CT scan is indicated in the evaluation of a patient with headaches which are increasing in severity, frequency, or awakening the child from sleep, or if the headaches are recurrent in morning hours, associated with vomiting, papilledema, VIth nerve palsy, loss of vision or decreased visual acquity, diabetes insipidus or in a child with short stature, or neurofibromatosis.[34]

Pseudotumor Cerebri

A second form of chronic progressive headache is pseudotumor cerebri, an increased intracranial pressure in the absence of a mass lesion or obstruction of cerebrospinal fluid (CSF) flow.[46] The location of the headache may vary but it is frequently generalized. Papilledema and VIth cranial nerve palsy may be present on physical examination. The CT scan fails to demonstrate a structural lesion or hydrocephalus. Further history may reveal exposures to excessive Vitamin A, steroids, tetracycline or a host of other drugs, a history of obesity or menstrual irregularities. If a lumbar puncture is performed, the opening pressure may be markedly elevated but the fluid itself is usually clear, glucose and protein determinations are normal, and there are few or no cells. Children with this diagnosis have been treated with diuretics high dose steroids, serial lumbar punctures or very rarely a ventriculoperitoneal shunts.

Hydrocephalus

Perhaps one of the most straight forward causes of chronic progressive headache is hydrocephalus, the accumulation of CSF with subsequent enlargement of the ventricles, secondary either to obstruction of the ventricular system, or impaired reabsorption of the cerebrospinal fluid. Depending on the age of the child the symptoms may include irritability, head rubbing, vomiting or other nonspecific complaints. In younger infants, the ultrasound examination is diagnostic when coupled with serial head measurements and examination of the head for the "cracked pot" sign of split sutures. CT scan is the most reliable diagnostic tool for establishing the diagnosis and cause of hydrocephalus.

Brain Abscess

The diagnosis of brain abscess should be entertained in any patient whose headache is accompanied by fever, focal neurologic deficits including VIth and VIIth nerve palsies and seizures, particularly of a focal or partial complex nature. Brain abscess is uncommon, but it may occur more frequently in patients with cyanotic congenital heart disease or chronic ear infections, mastoiditis or frontal and ethmoidal sinusitis.

Subdural Hematoma

As previously mentioned in the patient who has suffered head trauma, protracted headache suggests subdural hematoma. The headaches are usually accompanied by focal neurologic deficits, which vary with the size and location of the hematoma. Although ultrasound examination may show the subdural bleed in infant if it is especially large, the CT scan is the preferred diagnostic tool for localization.[47]

III. CHRONIC NONPROGRESSIVE

Psychogenic Headaches

The third large group of headaches are those mediated by anxiety and tension. Some authors believe that psychogenic headaches are the most frequent type found in children and adolescence. As cited by Ryan,[48] according to Homeyer et al., psychogenic headache has an incidence of 23.6% in children.

Rothner states "if a headache has been present continuously for more than four weeks in the

absence of neurologic signs, it is most likely to be psychogenic in origin."[47] The severity of the problem may range from simple anxiety to conversion reaction. Defined areas of conflict such as peer pressure, school failure, sibling rivalry, loss of a close friend or sibling by death or moving away, and incongruity between parental expectations and the child's performance are frequently cited as examples of triggers for psychogenic headaches. Headache may also be the presenting complaint in a depressed child. Other features of childhood depression include changes in mood, withdrawal, poor school performance, school phobia, weight loss, poor sleeping habits and other somatic complaints and a loss of interest in self and others. In few cases of true conversion hysteria, headaches are usually characterized by an inappropriate lack of concern about the headache and by acquisition of secondary gain, a phenomena well described in general psychiatry textbooks.

Since most children are school age at the time of onset of symptoms, psychometric testing to guide teachers and parents toward realistic expectations of the child's performance, projective tests to provide some clue as to the area of anxiety on the preconscious level, and perhaps personality inventory such as the MMPI can be adapted for use in the child with headache. Some children simulate illness to avoid unpleasant situations, such as tests and athletic meets. These children tend to be hyperexcitable, immature, overly reactive, and emotionally unstable.

In contrast to other forms of headaches, analgesics are rarely of value in the treatment of psychogenic headaches. Certainly any narcotic medications are to be avoided. Occasionally, psychotrophic agents are of some value in treating children with psychogenic headaches. More frequently, family counseling and/or psychiatric treatment with or without psychotropic drugs are necessary. Reassurance is the major form of therapy and not infrequently this may involve obtaining a series of negative tests in order to demonstrate to the patient and his family the absence of any organic basis for his headaches.

IV. ACUTE RECURRENT

Vascular Headache

The prototype of the acute recurrent headache is classic migraine. Migraine is a specific genetic disorder of vascular instability characterized by paroxysmal attacks of vasoconstriction and vasodilatation.[4-7] Structural abnormalities are absent.

Barlow states that "the overwhelming majority of children under age twelve years have migraine, not psychologic headaches . . . tumors or vascular malformations."[1] The incidence of migraine increases with age. Billie reported a 4% incidence in school age children, increasing from 1% at age six to 7% at age sixteen.[4] An incidence of 9% of migraine is reported in 15-17 year old Danish youths.[48] Burke and Peters report a 2-3% incident in prepubertal children[8] with an increase incidence in pubertal females and a decrease in migraine in pubertal males with subsequent reversal of the ratio by adulthood.[7] The majority of patients with childhood migraine become asymptomatic within six years[4] and prognosis is somewhat better for boys than girls particularly after puberty.

Prensky and Sommer (1979), reported that after several years, one-third of their 84 migrainious children studied were migraine free and another third did not require daily medication.[45]

The finding that 50-90% of migraineurs have a positive family history suggests[47] a genetic basis for the disease. Goodell (1954) reported that if one parent had migraine, 44% of the 502 children studied also had migraine. If both parents had migraine, 69% of the children had migraine. In 29% of 265 children with migraine, however, neither parent had migraine.[29] Ziegler (1975) comparing nonzygotic to dizygotic twin pairs found no greater concordance with monozygotic twins. An overall incidence of 2.2% of migraine with 33% concordance was noted in this study.[57] The exact mode of inheritance remains debatable, but autosomal dominant with incomplete penetrance seems most plausible. Wolff,[29] however, postulated a ressessive gene with 70% penetrance.

Criteria For Diagnosis

To diagnose childhood migraine, Prensky[44-45] required a recurrent headache with three of the following features: 1) abdominal pain, 2) nausea and vomiting, 3) localized unilateral headache or hemicrania, 4) throbbing or pulsatile quality of the pain, 5) complete relief after brief period of sleep, 6) an aura either visual, sensory, or motor with an intervening symptom free interval, and 7) a positive family history of migraine.

Precipitants

Specific event characteristic for the individual

migraineur are frequently cited as precipitants. Most frequently mentioned are stress, fatigue, lack of sleep, hunger, motion or travel,[12] ingestion of foods containing nitrate, glutamine and tyramine, weather changes, glare and in females menstruation or oral contraceptives.[42] Some investigators have postulated a psychogenic component to childhood migraine. Chao and co-workers cited excitement, fatigue, family conflict, physical exertion and school examinations as potential precipitating etiologic factors in childhood migraines.[10]

Personality Characteristics

Contrary to popular belief, Holquin and Fenichel did not demonstrate a correlation between intelligence and migraine.[33] Menkes described the migrainous child as having a character structure forbidding the overt expression of aggressive impulses, an above average feeling of anger, and an incompetent, fragile or vulnerable feeling within his family.[41] Ryan describes the migrainous child as shy, conscientious, anxious, violent tempered, tense, sensitive and strongly attached to their mothers.[48]

Pathophysiology-Mechanism

The mechanism of pain production in migraine and other forms of headache has been the subject of much research and speculation. Ray and Wolff in studying 30 patients undergoing craniotomy were able to elucidate the pain sensitive structures in the head; the great venous sinuses, the dural arteries, cranial nerves V, IX, X, the periostium of the base of the skull and the proximal 20% of the arteries forming the circle of Willis. The brain parenchyma, the meninges, the cranium and most of the blood vessels were found to be relatively insensitive to pain. Pain is produced by traction on the vein, the meningeal arteries or the arteries composing the circle of Willis, by distension of the intracranial arteries by inflammation or direct pressure from tumor on pain sensitive structures within the head.[16]

Apparently two phases occur in the production of migraine headache; vasoconstriction of the cerebral vessels, thought to be associated with the aura secondary to decreased blood flow and subsequent ischemia, and vasodilatation of the extra cerebral vessels associated with increased pulsation. Several investigators have reported increased excretion of 5-hydroxyindoleacetic acid (5 HIAA), the primary metabolite of serotonin in the urine of migraineurs during attacks.[15] Serotonin, a neurotransmitter in circuits modulating sleep, mood and pain preception, is decreased. Persons with migraine have increased platelet aggreability associated with serotonin release, but the exact role of platelets, if any, in migraine is unknown.[14,38] Increased levels of lactic acid, gamma amino butyric acid and cyclic AMP are found in the cerobrospinal fluid for up to two days after migraine headache.[56] The role of vasoactive substances in migraine remains fragmentary and unclear. However, the following observations lend support to the role of these substances in the pathogenesis of migraine. Serotonin levels in the plasma fall at the onset of a migraine. Serotonin will constrict scalp arteries but a subsequent increase in 5-hydroxyindoleacetic acid has not been consistently demonstrated. Tyramine and phenylethylamine found in certain foods including chicken livers, pickled herring, canned figs, cheese and wine can provoke migraine in susceptible persons especially when ingested in combination with monoamino oxydase (MAO) inhibitors. A generalized vasomotor reaction may be seen by ingestion of large volumes of monosodium glutamate (MSG) particularly in combination with alcohol. Increased intake of norepinephrine has been demonstrated in the temporal arteries of migraineurs resected during migraine attacks. The whole blood histamine level is increased in patients with cluster headaches at the onset of an attack. Cyclic AMP, a probable second transmitter for serotonin, is hydrolized by phosphodiesterase which can be inhibited by caffeine or papaverine which may explain their usefulness in the treatment of migraine. Injection of prostaglandin E_1 results in headache, nausea and vomiting and extracranial vasodilatation, the effects of which can be blocked by ergotamine. Aspirin and some other prostoglandin inhibitors effectively abort migraine headache. Cranial vessels are very sensitive to humoral agents, caliber of the vessels is altered dramatically by vasoactive agents which control the cerebral microcirculation.

Other investigators have been interested in demonstrating hormonal mechanisms of pain production. Somerville demonstrated an increase in migraine headaches several days after a dramatic fall in estradiol.[51] The relationship of falling estradiol levels and increased migraine as observed in women near menses or on oral contraceptives

is not known. During pregnancy 75-80% of females have complete remission of migraine.[18] Fifty percent of women taking oral contraceptives get worse and some previously nonmigrainous females develop migraine while taking oral contraceptives. Whether hormonal alterations have a direct or centrally controlled effect on cranial arteries or whether hormonal changes are secondary to serotonergic-hypothalamic regulation of gonadotropin-releasing hormone has not been established. However, since estrogenic states alter vasomotor stability, an effect on migraine is expected.[36]

CLASSICAL FEATURES OF MIGRAINE

Classic Migraine

The prototype of migrainous headaches is the classic migraine, although this form is somewhat uncommon in children. Classic migraine is usually manifested by an aura usually visual for example, blurring hemianopia, scotomas, flashing light, and visual hallucinations.[7,30] The symptoms are thought to be secondary to the intense vasocontriction of intracranial vessels. As the aura subsides, a unilateral, throbbing headache begins, which frequently is accompanied by vomiting, abdominal discomfort, photophobia and sonophobia. Children typically withdraw to a dark, quiet room and sleep for 30 minutes to an hour with full recovery from symptoms.

Common Migraine

This form differs from classic migraine in that the prodromal phase may be absent or very mild. This form is more common in children, is more frequently bilateral or frontal in location, and is associated with prominant vomiting.

Cluster Headaches

These unilateral headaches which are associated with periorbital pain, lacrimation, *unilateral* rhinorrhea or nasal stuffiness, and flushing are rare in children.[21]

Hemiplegic Migraine

Hemiplegic migraine, as suggested by the term, is a vascular headache with sensory and motor phenomena[6,23] which persists during and for varying length of time (30 minutes to an hour) after the headache.[37] Typically the headache is contralateral to the hemiplegic side. The hemiplegia may alternate sides from one attack to another, but persistent pain on one side especially if other neurologic signs are present, should be evaluated with CT scan and or angiography to rule out an arteriovenous malformation.[47] Lai, et al. further state that recurrent but alternating hemispheric symptoms with rapid spontaneous recovery in constant association with headache and a good response to propranolol is confirmatory for the diagnosis.[37] Bradshaw and Parsons studied a large group of patients with hemiplegic migraine and found that all had headaches, many had visual disturbances, weakness, dysphasia and occasional impaired consciousness.[6] Some children have fever, meningeal signs and convulsions during acute hemiplegic migraine.[25,54] Only 16% of children with hemiplegic migraine have a positive family history.[6] EEG's are typically abnormal with a focal slow wave, alpha suppression during the attack that usually rapidly improves but may be abnormal for up to five days.[9,22] CT and cerebrospinal fluid are typically normal. Arteriography when done in Lai's series was normal. Because of increased risk of inducing another episode of migraine or producing permanent neurological deficits, arteriography should not be done unless the symptom complex is atypical and only after the attack.[11,20,47]

Ophthalmoplegic Migraine

Migraine accompanied by eye pain with partial or complete III nerve palsy[53] manifested by unilateral pupillary dilatation, outward deviation of the eye and ptosis which may persist for several weeks, is classified as an ophthalmoplegic migraine. Vijayan[55] reported that in 76% of patients the ophthalmoplegia lasted more than two weeks. He postulated that border zone infarction of the III cranial nerve was responsible for the symptoms as the pupillary fibers occupy the outer one-third of the nerve.

Basilar Artery Migraine

The sudden onset of ataxia, vertigo and alternating hemiparesis (during the same episode), dysarthria, tinnitus, and sometimes alteration of consciousness in patients with migraine is termed basilar artery migraine (BAM). Other authors classify basilar artery migraine as recurrent attacks of neurologic dysfunction referrable to the brainstem and cerebellum. Most commonly affected are adolescent females during or near menstruation. Twenty-nine of 122 migrainous children had BAM.[32] Golden reported eight children with BAM, six of whom had attacks before age four.[27] Hackady reported 13 out of 29 patients

had altered consciousness and 14 out of 29 had visual disturbances.[32] Bickerstaff studied 32 patients of which 26 were adolescent females. The onset of the episode was visual with vertigo, ataxia, dysarthria, and tingling or numbness of hands, feet, lips and tongue lasting 2-45 minutes. One-fourth of these young women had brief loss of consciousness and was followed by severe throbbing headache.[2,27]

Epilepsy Equivalent Syndrome

The overlap between migraine and epilepsy is considerable; headaches, abdominal pain, nausea and vomiting, hallucinations, drop attacks, hemiparesis, dysarthria, and confusional state may be seen in both conditions. EEG abnormalities also can be found in both disorder. Headache in the presence of altered consciousness is suggestive but not diagnostic of epilepsy equivalent syndrome. Rothner proposed the following diagnostic criteria: a history of generalized seizure, an epiliptiform EEG, positive family history of seizure and positive response to treatment of anticonvulsants.[47] It is important to note that migraine is more likely to be precipitated by exercise, emotional stress and school failure is primarily manifested by headache, while epilepsy is manifested by convulsion, abnormal EEG, and usually last only a few seconds to minutes.

Seizure headaches are usually bifrontal or diffuse in location, begin abruptly and continue for several hours. They are accompanied by nausea and vomiting, followed by lethargy and sleep, and typically respond to anticonvulsants.

Cyclical vomiting, periodic abdominal pain and episodic vertigo are also listed under migraine equivalents or migraine variants. Headache is noted in 43% and a paroxysmal EEG in 20% of children with diagnosis of abdominal migraine.[7] The distinction between some variant of migraine and epilepsy may not be obvious and is further confused by the occasional responsiveness of migraine, like epilepsy to anticonvulsants.[47,52] As Ryan[48] states, "To the average patient there is more to the symptomatology of migraine than just headache." In some patients the abdominal symptoms may often be more troublesome than the actual headache itself. It is important to differentiate this condition from urinary tract infection, intussusception, peptic ulcer, porphyria, lead poisoning and intestinal infections.

In acute confusional state or migraine stupor following clinical prodrome, child becomes stuporous or confused lasting from a few hours to days.[24,28] Midbrain dysfunction is suggested as the most likely locus of disease. Agitated confusional states, impairment of perception of time, space and body image during the vasoconstrictive phase "Alice in Wonderland"[3,28] syndrome and a few cases of pseudoangina manifested as constricting chest pain have been reported as rare forms of migrainous attack.

Treatment

The treatment of migraine is dictated by the frequency of attacks, the presence or absence of an aura and the age and reliability of the patient. If attacks are infrequent, simple analgesics with or without antiemetics is reasonable therapy. It is known that the sedative properties of antihistamines potentiate simple analgesics making this an attractive combination particularly in the prepubescent child. The use of narcotic analgesics is *not* recommended. For patients with one or two attacks a month, abortive therapy using ergotamine tartrate as early as possible in the headache phase is preferred. The drug is available as an oral, sublingual, inhaler, rectal or parenteral forms. Contraindications to the use of ergot derivatives are: hypertension, vascular disease, pregnancy, hyperthyroidism, infection, hepatic dysfunction. When frequent attacks are present prophylaxis with agents that inhibit vasoactive substances such as antihistamines, non-steroidal anti-inflammatory drugs, beta adrenegic blockers is indicated.

Prophylaxis

Methysergide is a potent serotonin antagonist with vasoconstrictive, anti-inflammatory, and vasomotor inhibitory properties, associated with a high number of side effects; nausea, abdominal pain, muscle cramps, and after prolonged use retroperitoneal fibrosis with ureteral obstruction. Pleuropulmonary fibrosis and endocardial fibrosis are also reported. For this reason one month drug holiday after six months of therapy is recommended. In addition, a chest x-ray should be done every six months to rule out pleuro and retroperitoneal fibrosis. Because of these side effects, Methysergide is rarely used in children. *Propranolol* is a beta blocker which prevents vasodilatation, platelet aggregration and prostaglandin synthesis. The dosage recommended is 20 mg t.i.d. for children under 35 kg and 40 mg

b.i.d. for children weighing more than 35 kg. It is contraindicated in patients with COPD, asthma, AV block, or right ventricular failure. *Anticonvulsant agents* used in the usual doses for treatment of seizure disorder are occasionally useful in the treatment of migraine. The mechanism of action is unknown. *Cyproheptadine* is a powerful peripheral serotonin antagonist. Billie noted that 0.2-0.4 mg/kg/day was effective in the majority of 19 children in the treatment of migraine. Because of fewer side effects Diamond prefers this drug for use in children. Recently calcium channel antagonism has been shown as the primary action of cyproheptadine and this property may account for its value in migraine.[43] *Amitryptline* is useful in the treatment of adult migraineurs especially in nondepressed patients with severe migraine or depressed patients with less severe migraine, it has not been studied in children. *Calcium channel blockers* and alpha adrenergic blockers have been used for treatment of migraine.

It is imperative to determine the precipitants of migraine and to attempt to decrease exposure to them. For example, if a child is sensitive to caffeine, tyramine, nitrites, or MSG, an elimination diet may be helpful. Refractive errors and dental problems should be noted and corrected. In the child with attacks triggered by prolonged television viewing, limits can be set for the number of minutes or hours of television watched. Psychotherapy and family counseling may be of some value in dealing with the especially anxious child who has migraine headache. Reassurance by the physician is of primary importance in helping the child and his family cope with the illness and prevent the habituation of pain in the development of a "migraine cripple."

GENERAL MANAGEMENT OF HEADACHES

The primary physician has the task of taking a history which will clearly describe the location, frequency, severity, duration, and character of headache pain.[39] He must also note whether nausea, vomiting, abdominal pain, sensory or motor neurologic deficits, bizzare behavior, changes in the level of consciousness, fever, myalgia, or symptoms specific for systemic disease are present. The timing of the headache during the day, week, month or year is also noteworthy.[48] A history of headache invariably on the same side is suggestive of an organic etiology. Previous personal or family history of headache, history of exposure to infection, toxic chemicals including heavy metals and street drugs, or trauma to the head, neck or associated structures must be determined. Attention must also be paid to the emotional tenor within the family, recent personal losses (death of a family member, friend moved away, etc.) the presence of known school problems, and the history of depression (decreased appetite, poor sleep, poor grades, withdrawn affect) in the child.

A careful physical examination, attention to vital signs, history of fever may make one suspicious of brain abscess, meningitis, encephalitis, or other infectious disease. Attention to the physical growth of the child may also provide appropriate clues to the clinician. For example, the child who has linear growth failure as manifested by a marked drop on his growth curve, should be carefully evaluated for tumors near the pituitary gland including craniopharngioma. A thorough examination of the cranium is important particularly in the infant and small child in whom the sutures may be noted to be split on physical examination. This finding or marked increase in head circumference, particularly in the infant with an open fontanel suggest hydrocephalus. Careful ocular examination, including visual acuity, careful examination of the extraocular movements, pupillary function and fundi will be particularly helpful in excluding eye disease as a cause of headaches and may provide important clues to intracranial lesions including brain tumor, pseudotumor cerebri and hemiplegic or ophthalmoplegic migraine. As previously noted, tenderness over the sinuses or at the temporomandibular joint or on percussion of the teeth may aid the physician in the appropriate diagnosis of infection in sinuses, dental abscess or malocclusion, and appropriate referral to dentist can be made. The head and neck should also be carefully examined for the presence of bruits in the carotid arteries and temporal arteries. The physician should complete a careful examination of the chest and abdomen, particularly noting any findings suggestive of cardiovascular disease, cyanotic congenital heart disease which may predispose a child to brain abscess and AV malformations within the cerebrovascular circulation. It is also important to examine the abdomen for the presence of hepatomegaly, splenomegaly, masses or asities, which may give clues to a systemic disease manifested in part by headache. The presence of

bony or joint abnormalities or skin rashes are important clues to such systemic illnesses such as tularemia, typhoid fever and Rocky Mountain Spotted Fever all of which may have prominent headache in the prodromal phase. Systemic illness such as lupus erythematosis and juvenile rheumatoid arthritis may present with myalgias, arthralgias, and headache as part of their systemic picture. A careful neurologic exam, giving attention to speech, gait, cranial nerves, sensory and motor function (including hemiplegia), and memory is important in establishing the diagnosis in a patient who presents with headache. It is also important to obtain blood pressure in any child who presents with a complaint of headache to rule out hypertension as an etiology for the headache. It is rare for the child older than age two to present with hypertension in the absence of nephritis. However, one of the frequent causes of hypertension in the child younger than two is coarctation of the aorta, and this diagnosis essentially can be excluded by obtaining blood pressures in upper and lower extremities and by examination of the pulses. Laboratory examination should include tests which are suggested by the history and physical examination, such as CBC in febrile child or urine for specific gravity in the child with polyuria and polydipsia. The usefulness of skull films is debatable, apart from identifying a fracture in the patient who has sustained direct trauma to the head. If subdural hematoma or other intracranial lesions are suspected, CT scan of the head is needed for definite diagnosis and localization. Erosion of the sella turcica by an expanding lesions such as craniopharyngiomas may be noted on skull films, split sutures may be noted in approximately one-third of patients with brain tumors, particularly with hydrocephalus. The electroencephalogram (EEG) is useful in patients with seizures or by focal neurological deficits such as those seen in hemiplegic or ophthalmoplegic migraine. A nonspecific EEG abnormality may be seen in as many as one-third of migraine patients. The CT scan or computed tomography is especially useful in excluding intracranial mass lesions including brain tumors, AV malformations, and accumulation of blood in the subdural space. Ateriography should be reserved for those patients in whom arteriovenus malformations or other vascular pathology are strongly suspected; it should not be done during the acute headache phase, particularly in patients with hemiplegic migraine symptomatology unless the attack is atypical.

SUMMARY

When a child presents to the pediatrician's office with the complaint of headache, the physician should take a careful history to characterize the nature of the headache and ask about a family history of such disorders. It is imperative that he perform a careful physical examination, including ophthalmologic and neurologic examination. When a diagnosis is made the treatment plan for the child should be individualized based on the underlying cause. In case of childhood migraine type of therapy is indicated based on frequency, severity, and age of the child and may be altered as the child gains facility in recognizing the symptoms of his headache and ability to medicate himself.

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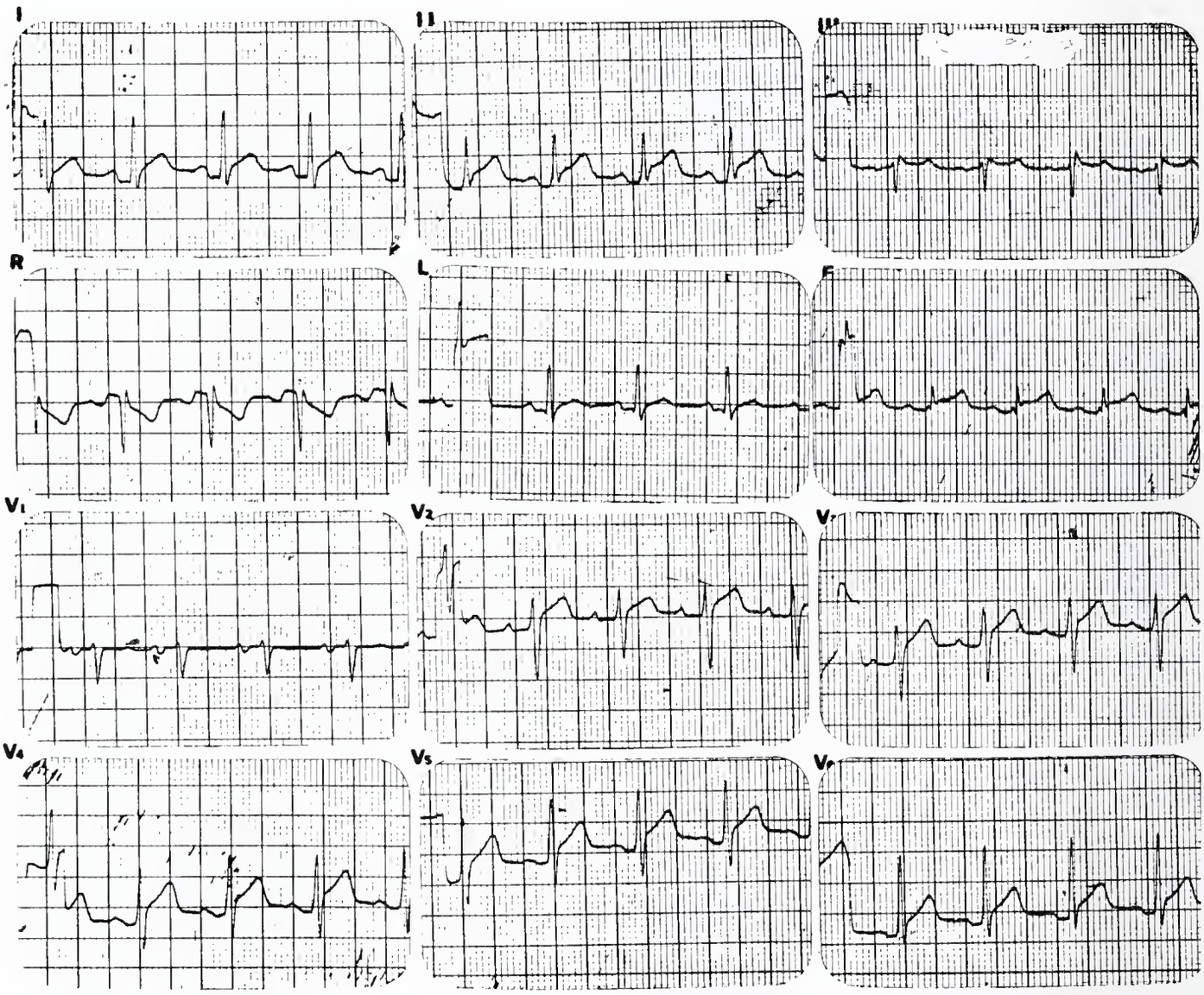
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 283)

HISTORY: J. R. M. is a 35-year-old man presenting with a flu syndrome associated with chest pain eased by leaning forward. A pericardial friction rub is noted on cardiac auscultation. Do you feel that his ECG is compatible with pericarditis?



Valerie McNee, M.D., and John W. Watson, M.D.
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Office Orthopaedics

Acromioclavicular Separation — A Plea for Conservative Treatment

R. Barry Sorrells, M.D.*

Disruption of the capsuloligamentous structures about the acromioclavicular joint with displacement of the normal relationship between the distal clavicle and the acromion is a frequent occurrence following trauma to the shoulder area. Direct trauma to the posterosuperior aspect of the shoulder is the usual cause of A/C separation but a fall on the outstretched arm may indirectly produce the same result. This is commonly seen as a result of athletic injury. The ligamentous injury is variable in degree and may involve only the acromioclavicular ligament or may result in damage to the coracoclavicular ligaments (conoid and trapezoid) as well. Fracture is only rarely associated with this injury.

The degree and extent of soft tissue disruption and acromioclavicular separation may be classified as follows:[1]

Grade I

Only the capsule and ligaments of the acromioclavicular joint are affected, minimal stretching or tearing occurs, displacement is trivial, and the pathology may be termed a "sprain."

Grade II

The capsuloligamentous structures of the acromioclavicular joint are torn, the articular surfaces and A/C joint meniscus are damaged, the coracoclavicular ligaments are stretched but remain relatively intact, and the outer end of the clavicle is partially displaced upward and backward (subluxated).

Grade III

The acromioclavicular capsule, ligaments, and meniscus are severely disrupted, as are the coracoclavicular ligaments, allowing the outer end of the clavicle to separate from both the acromion and the coracoid.

Clinical Picture

The symptoms experienced by the patient vary with the severity of the injury. Grade I injuries produce pain, swelling, and tenderness with virtually no cosmetic deformity. Grade II separations produce the same symptoms but usually more pronounced. Deformity may be apparent, especially with weights in the hand of the affected side pulling down on the arm and shoulder girdle. Downward digital pressure over the outer end of the clavicle demonstrates greater mobility than the uninjured side. Pain is noted with shoulder motion, especially abduction.

Grade III injuries present with a similar clinical picture but with greater pain, more swelling, exquisite tenderness, and greater cosmetic deformity. The acromioclavicular and coracoclavicular ligaments are stretched or disrupted. As a result of the unopposed pull of the superior clavicular muscles and the downward pull of the weight of the arm, superior riding of the distal clavicle and forward and downward displacement of the acromion occurs—a true A/C dislocation or Grade III injury.

Treatment

Grade I and II injuries should present no dilemma regarding appropriate treatment. They

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will usually respond to rest of the shoulder until pain subsides—usually within a few weeks. After resolution of symptoms, the extremity can be returned to normal activity. On occasion, however, joint damage is severe enough even in Grade I and II injuries to lead to persisting symptoms and possible restriction of motion. This can occur with conservatism of treatment and certainly is not prevented with operative intervention. That is to say certain of these injuries will remain symptomatic and partially disabling regardless of the treatment. Conservatism is therefore elected considering the fact that no better primary treatment exists. A reconstructive procedure to be described later is indicated on a rare occasion following Grade I and II injuries.

Grade III injuries on the other hand present a real problem in treatment. Extensive literature regarding treatment of this problem has only resulted in the conclusion that no single treatment method is predictably reliable in producing a painless and fully functional shoulder. The very fact that at least fifty different methods of bandaging and thirty operative procedures[2] have been described emphasizes the fact that no good single treatment method exists.

Most operative procedures involve open reduction and repair of the acromioclavicular joint and its ligament. The meniscus is removed if damaged. The coracoclavicular ligaments may be repaired and may be reinforced with absorbable or nonabsorbable suture. They may be replaced or reinforced with a synthetic ligament or fascia lata. The clavicle may be internally fixed at the A/C joint with pins, wires, screws or most any type hardware. The clavicle may be approximated to the coracoid process with screws, bands, sutures, etc. Dynamic tension repairs with transfer of a musculotendinous unit have been described. In short, almost any imaginable treatment method has been conceived, tried, and described. Most operative procedures have frequently resulted in less than optimum results.

Conservative, nonoperative treatment may yield results as good as those achieved operatively. Most patients would prefer to forego an operative procedure, or procedures, if comparable results can be achieved without surgery. Most surgeons likewise would prefer to treat their patients without surgical intervention unless superior results can be obtained otherwise.

Rosenorn and Pedersen[3] compared twenty-four patients with Grade III injuries. Eleven were treated surgically with the well established



Figure 1.
Pre-operative x-ray of Grade III left A/C dislocation.

Bosworth procedure; thirteen were treated non-operatively. They concluded that non-operative treatment, irrespective of the methods used, affords a functional result as satisfactory as those with operative treatment. Conservative treatment also resulted in a smaller number of days lost through illness, fewer visits to the doctor, fewer days in the hospital, less expense, and avoidance of two operations under general anesthesia—one to implant the fixation device, one to remove the same.

Bjerneld, Hovelius, and Thorling[4] reviewed retrospective and prospective studies[3,5,6] which described comparable or even better results following conservative treatment of A/C dislocations. Their own study involved thirty patients with Grade III injuries treated with minimal or no attempt at reduction of the dislocation and short term immobilization. Their cases yielded twenty-seven patients with excellent or good results, only three with unsatisfactory results. Their results were as good as most reported surgical cases!

In the reporting of results, most studies consider only symptoms and function. The unreduced A/C dislocation may result in cosmetic deformity from the superiorly displaced clavicle. Conversely, the surgically treated A/C dislocation will inevitably leave a scar. Perhaps a trade-off. Radiologic assessment has not correlated with functional results.[3] Some patients with radiographically reduced A/C joints have continued with disability, others with x-ray evidence of chronic dislocation have had excellent clinical results.



Figure 2.
Properly applied A/C sling.

Recommended Treatment Method

Considering the above—that is clinical results no better with surgery than without—the author makes a plea for conservatism in the treatment of all acromioclavicular separations, Grades I, II, and III.

The patient with Grade I A/C injury can be easily treated with or without a sling, limitation of vigorous activity, passage of time to allow resolution of symptoms and gradual resumption of normal usage.

The patient with Grade II injury can be treated as above, but those with more symptoms or displacement possibly treated as Grade III.

The majority of those with Grade III injuries are treated with an acromioclavicular sling (Kenny Howard sling) (Figures 1-3). This device when properly applied and worn produces downward pressure over the distal clavicle, upward pressure on the arm from the elbow, and resultant complete or near complete reduction of the dislocation. It must be properly applied and worn full time for about four weeks! During this time healing can occur at the A/C joint and of the coracoacromial soft tissues. The result may be anatomic restitution at the A/C joint or persistent clinical and x-ray evidence of partial or complete dislocation. The clinical result should, however, be comparable to those treated surgically.



Figure 3.
Appearance of left A/C joint after five weeks in sling (weights in left hand).

In the severely dislocated A/C joint with marked cosmetic deformity and gross shoulder instability or in the patient who insists in a "return to normal" appearance with acceptance of surgery and its scars, operative treatment may still be elected. But, the symptomatic and functional result may well be the same.

In the patient with non-operative treatment and persistent unacceptable cosmetic result or in the event of shoulder pain secondary to A/C joint arthrosis, the secondary procedure as described by Bateman[7] may be carried out. The outer one centimeter of the clavicle is resected and the outer upper clavicle is planed down to avoid the "knot" of the clavicle at the A/C joint. This is usually quite successful in producing a satisfactory cosmetic appearing and functional shoulder.

In summary, the author recommends a conservative approach to the treatment of shoulder separations if for no other reason than the fact that this type treatment is as good as the best we have to offer.

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Marketing and Health Care

Mary Jo Knittig*

Marketing in health care is still in an infancy stage. Many are coming to realize that the old adage—if you build a better mousetrap, the world will beat a path to your door—is not true for the health care industry. Increasing competition, better informed consumers and attempts to control spiraling costs have made health care providers consider marketing as a possible tool.

Marketing to some is the same as advertising and selling. But marketing can be more broadly defined as the set of human activities directed at satisfying needs and wants through an exchange process. Exchange is a key word. There must be two parties and one party must want something from the other party. The two parties must be able to communicate to make the exchange.

The exchange involves four variables:

—product: the type of service to be offered
—place: how and where the service will be delivered to the patient
—price: monetary and nonmonetary costs such as time lost, inconvenience, discomfort, etc.
—promotion: how and what the patient learns about the service and how it is provided

These variables are sometimes referred to as the marketing mix. Note that advertising and selling are just parts of the promotion variable.

Marketing principles can be applied to any health care organization from solo practitioners to huge hospital chains. Looking at the marketing mix variables several questions should be asked.

- What are we marketing? What services (product) do we provide?
- Who are we marketing to? Sometimes a product or service will meet just about anyone's needs but most of the time only certain groups (segments) of people have a need or desire for the service or product. The process of looking at which groups to market to is known as market segmentation. Characteristics such as health status, age, location, income, occupation etc. can be used to segment a market.
- How are we marketing it? Does the patient have adequate and accurate information about the service? Is price important or of little consequence to the patient?
- Where are we marketing it? Is our location convenient? Does the appearance of the facility attract or detract from the services? Is our staff helpful and friendly?
- When are we marketing it? Are our patients working and are night and weekend services available?

All of the above questions can be asked and answered to some extent. But anyone working in the health care industry will quickly recognize that there are some major differences between health care services and other services or products. First of all the product may not be perceived by the patient as a need until the onset of an illness and thus not planned for. Patients do not have the knowledge to judge price versus value. Most patients do not pay directly for the services they receive. Third party payment is the rule. Regardless of these major differences an exchange process is still taking place in an attempt to satisfy needs or wants.

Preventive health services are a good candidate to use marketing principals. The consumer then has a desire for the service and can plan when and where they want the service and how much they are willing to pay. They might choose services from a solo practitioner, a single-specialty group practice, a fee-for-service or prepaid multispecialty group practice, an HMO, a hospital outpatient specialty clinic, a neighborhood health center, a

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public health clinic, etc. The diversified organizational units that provide health services today and as well as trends toward preventive services and consumer participation make marketing viable for preventive services.

The DRG legislation that was recently inacted will probably promote the use of marketing as well as many other business practices by hospitals. Is a hospital not a business that produces up to 467 different products/DRG's? DRG's are case-mix groupings that are purported to be medically similar, statistically homogeneous and similar with respect to hospital resources consumed. Thus the products have been defined and the hospital can look at which DRG's they provide to which market segments, what relationship price (Medicare payment) has to cost of the DRG, how efficient they are at producing the service and location, convenience, hours, etc. to meet the patient's needs.

Looking at DRG's and hospital marketing brings up the topic of marketing strategies. Strategies might include dropping unprofitable products (DRG's), diversification into new markets with DRG's the hospital hadn't provided in the past, expansion of the geographic area of operations, achievement of a greater penetration into existing markets with existing DRG's, integration of existing businesses by adding activities formerly purchased from the outside, etc. Developing a marketing strategy involves first looking at the consumer whose needs and desires the hospital is trying to satisfy, defining the marketing mix, your organizations strengths and weaknesses in producing its product, and your competitors strengths and weaknesses. From this you can determine what your strategy will be.

No matter which aspects of marketing your organization is currently engaged in, the next few years will show how pertinent the principals of marketing are to the health care industry. Organizations will be experimenting with different strategies and the organizations that survive and grow may do so by practicing good marketing techniques.



MEDICAL GRAND ROUNDS: Sudden Cardiac Death

David Hicks, M.D.*

The World Health Organization defines sudden cardiac death as cardiac death occurring within 24 hours. I am going to deline it as unexpected cardiac death in patients with and without known pre-existing disease, with or without previous symptoms, and occurring after symptoms have occurred for less than one hour's duration. Three essential elements are necessary to meet the criteria of sudden cardiac death. These are: (1) natural process, (2) unexpected occurrence, and (3) rapid development.

Sudden cardiac death is one of the major problems confronting cardiologists in this country. We find that approximately 1.5 million acute myocardial infarctions occur in this country each year. In patients with heart disease, approximately 700,000 deaths occur on a yearly basis. Unfortunately, 60% of these are sudden cardiac deaths which accounts for approximately 450,000 deaths a year. This is approximately 1,200 lives daily or about one each minute. Of these 450,000 sudden cardiac deaths each year, about 25% of these patients have had no prior knowledge of heart disease whatsoever. Therefore, each year over 100,000 sudden deaths occur in people who were previously thought to be healthy. It is the leading cause of death in the 20- to 64-year-old age group and accounts for 32% of all fatalities in this age group. It is not a disease of the elderly as the median age of patients with sudden cardiac death is 59 years. Several features of the syndrome of sudden cardiac death include: (1) it occurs for the most part in the presence of ischemic heart disease, (2) it occurs commonly in the community or workplace, (3) prodromes are notoriously absent, (4) the onset is instantaneous, (5) acute myocardial infarction is demonstrated in less than 20% of patients with sudden cardiac death, (6) evidence for thrombosis of coronary arteries is present in only 5% of patients with sudden cardiac death, (7) electrical instability is the hallmark of the syndrome, and (8) in patients resuscitated from sudden cardiac death, the likelihood of recurrence is about 30% over the next year. One finds a number of differences when comparing patients with acute myocardial infarction and sudden cardiac death. With infarction, prodromes are commonly present as the patient frequently has presented to his physician with complaints of worsening angina or new onset angina. With sudden death, as previously mentioned, prodromes are usually absent. It has been noted upon close questioning of family members and friends that patients with sudden cardiac death have had minimal and nonspecific complaints prior to the event but only 10-15% of them may have sought their physician's attention because of these problems. As I mentioned, electrocardiogram and enzyme evidence for acute myocardial infarction is usually absent in sudden cardiac death. Thrombotic occlusion is uncommon, but with myocardial infarction, thrombotic occlusion is quite frequent. Arrhythmia is very common in myocardial infarction but certainly advanced grades of ventricular ectopy is the hallmark of the sudden cardiac death syndrome. As previously mentioned, the recurrence rate for ventricular fibrillation in sudden death is very high, approximately 30% over the next year. With acute myocardial infarction and fibrillation, the incidence of recurrent fibrillation over the next year is generally low at less than 5%.

For the most part, the syndrome of sudden cardiac death occurs in the setting of ischemic heart disease. The majority of patients have greater than 75% stenosis in more than two major coronaries. Patients who die of natural causes or other illnesses commonly have normal coronary arteries or single vessel disease at the time of autopsy. In patients who come to autopsy after sudden cardiac death, more than 75% of them will have severe multivessel disease. Miscellaneous heart disease accounts for 20% of deaths from sudden cardiac death. These entities would include congestive cardiomyopathy, idiopathic hypertrophic subaortic stenosis, mitral valve prolapse, prolonged QT syndrome, and valvular heart disease. SA and AV nodal disease or sick sinus syndrome is not a common finding in patients with sudden cardiac death.

A number of non-specific electrocardiographic abnormalities are found in patients resuscitated from sudden cardiac death. Less than 20% have changes of acute myocardial infarction. Most of

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the changes are non-specific ST and T wave abnormalities or one may find no changes at all. A number of patients may have remote infarctions on the electrocardiograms or age undetermined infarctions.

As previously mentioned, electrical instability is the hallmark of the syndrome of sudden cardiac death. Sudden cardiac death is uncommonly a bradyarrhythmic death as only 4% of these patients will have a bradyarrhthmia as the first recorded rhythm at the time of resuscitation. Ventricular tachycardia and ventricular fibrillation account for approximately 96% of the first rhythm recorded at resuscitation. Ventricular fibrillation is a very chaotic, asynchronous, refracted electrical activity where the excitatory impulse does not arise from a single focus, and the excitatory wave of depolarization wonders erratically throughout the myocardium. This results in ineffective contractile force of the myocardium and death. A number of mechanisms have been proposed to account for ventricular arrhythmia. Re-entry is a popular mechanism. Normally a wave of depolarization can progress down a number of pathways both antegradely and retrogradely. If a wave of depolarization encounters an area of scar, this may result in an antegrade or unidirectional block. It is then possible that another excitatory impulse could be retrogradely conducted through this area. This retrogradely conducted impulse may be slowed by the abnormal area and can therefore find previously do polarized tissue no longer refractory thus setting up a potential re-entrant pathway. Antiarrhythmic drugs may interrupt this arrhythmia by either converting the unidirectional block to a bidirectional block so that the impulse is no longer conducted retrograde, or the drug may alter refractory period such that when the impulse is retrogradely conducted through the area of scar it finds the previously depolarized tissue still refractory. Either of these mechanisms would potentially interrupt re-enterant circuit.

In order to prevent sudden cardiac death, we need to identify the patients at risk. As sudden cardiac death is an electrical problem, it would seem necessary to identify patients with significant ventricular ectopy. The usual risk factor for atherosclerosis which would include smoking, hypertension, family history, diabetes, hypercholesterolemia, etc. enhance the susceptibility of the patient to develop coronary artery disease. However, either single or in combination, they do not predict the risk of sudden cardiac death. As the mechanism of sudden cardiac death in invariably ventricular fibrillation, we need therefore to look at ventricular arrhythmia as a harbinger of sudden cardiac death. Unfortunately, PVCs occur in most everyone with and without underlying heart disease. In addition, ventricular ectopy increases in frequency as the patients age. One therefore needs to classify ventricular arrhythmia in an attempt to identify dangerous ectopy that requires therapy. The easiest way to categorize ventricular arrhythmia is simple PVCs and complex PVCs. Simple PVCs would include infrequent PVCs and generally unifocal PVCs. Multi PVCs have generally been placed in the classification of simple ventricular ectopy. Complex ventricular ectopy would include couplets, triplets, sustained V tach or early PVCs or the R-on-T phenomenon.

LOWN'S CLASSIFICATION OF PVC's

	Grade
	0 — no PVCs
Simple	1A — less than 1 PVC/minute less than 30 PVCs/hour
	1B — more than 1 PVC/minute less than 30 PVCs/hour
	2 — more than 30 PVCs/hour
	3 — multiform PVCs
Complex	4A — couplets
	4B — 3 or more PVCs in a row
Complex	5 — early PVCs or R-on-T phenomenon

An investigation analyzing the relationship between advanced grades of PVCs and sudden death was carried out by Ruberman. 1,739 men ages 35 to 74 with prior myocardial infarctions were monitored for one hour while sedentary and then followed up for an average of 24.4 months for mortality. Patients with complex ventricular arrhythmia (R-on-T, pairs or more, multiform or bigeminal) in the monitoring period had a risk for sudden death three times greater than that of patients free of PVCs. The mere presence of simple PVCs, even when frequent, did not increase the likelihood of sudden cardiac death. Among those patients with simple forms of PVCs, the occurrence of sudden cardiac death during the three year period was 4.2% which was no different than the mortality rate among those without ventricular ectopy. However, the presence of ad-

vanced grade PVCs was associated with a 15.5% incidence rate of sudden cardiac death during a three year follow-up period.

As mentioned, the frequency of PVCs increases with age. In addition, the presence of ectopic activity is related to the extent of myocardial damage. Increased prevalence in grade of ectopy was significantly more frequent in patients with multivessel disease than in patients with only one vessel involvement. The group with single vessel disease does not differ from those without coronary disease in frequency and distribution of PVCs. Patients with complicated ventricular ectopy (multiform, couplets, ventricular tachycardia, or R-on-T) have a greater number of proximally obstructed major coronary arteries and more extensive disease than patients with infrequent or no ectopic activity.

The presence of elevated left ventricular end-diastolic pressure and one or more zones of asynergy is associated with increased ventricular ectopy. In one study, advanced grade PVCs were limited to those patients with ejection fraction less than 40% and sudden cardiac death occurred only in those patients with depressed myocardial function and advanced grade PVCs. Ruberman determined PVCs independently contributed to the risk of sudden cardiac death, and if congestive heart failure and complex PVCs are present at the same time, this risk is increased. Congestive heart failure alone is associated with a relative risk for sudden cardiac death 1.85 times greater than in a healthy individual. Complex PVCs (defined as R-on-T, runs of two or more, multiform or bigeminal) alone increase the risk 3.3 times over normals, and the combination of congestive heart failure and advanced grade PVCs raises the danger to 6.1 times over normals.

It should be emphasized that in the vast majority of patients, PVCs require no therapy. Therapy is needed only in a minority of patients who usually have ischemic heart disease and a life-threatening or symptomatically disabling arrhythmia.

INDICATIONS FOR TREATING PVC's

1. Primary ventricular fibrillation unprovoked by acute myocardial infarction.
2. Myocardial infarction within past year and grade 4 or 5 (pairs, V tach, R-on-T) PVCs on holter monitoring.
3. Angina of new onset with advanced grades of PVCs (grade 4 or).
4. Coronary artery disease with PVCs of the vulnerable period (R-on-T).
5. Coronary artery disease and grade 4 or 5 PVCs and ST depression of 2 mms or greater at peak exercise.
6. Prolonged QT syndrome, PVCs and syncope.
7. Mitral valve prolapse, syncope and advanced grade PVCs.
8. Advanced grade PVCs during angina.
9. Arrhythmia causing severe symptoms.
10. Congestive heart failure and complex PVCs.

Any prophylactic program against sudden cardiac death must involve the use of antiarrhythmic drugs to subdue PVCs. Merely the administration of a drug to a patient in hopes of preventing fatalities is frequently an exercise in futility. Cobb and others found that 47 of 64 patients with recurrent ventricular fibrillation were receiving antiarrhythmic therapy. There is a need to rationalize therapy. Once we have identified a high risk patient, there needs to be guidelines for therapy.

Because of the high degree of spontaneous variability in ventricular arrhythmia, holter monitoring is very useful in determining if antiarrhythmic therapy is significantly improving arrhythmia. If ventricular ectopy is reduced by at least 83%, and the incidence of pairing and V tach reduced by 75% and 65% respectively, then one can be reasonably sure that the antiarrhythmic agent is responsible for the decrease rather than the spontaneous variability alone.

The goal of antiarrhythmic therapy is to abolish grades 4 and 5 ventricular arrhythmia. Exercise testing is also important in determining efficacy of drug therapy, as in some patients arrhythmia is precipitated by exertion while none is present at rest. If arrhythmia is provoked during exercise, continued drug manipulation is required.

If one can suppress the arrhythmia, there is likely a decreased incidence of recurrence of sudden death in patients resuscitated. Lown's data would seem to support this. In 46 patients whose arrhythmia could be controlled, the mortality over 19 months was 3.9%. In 16 patients in whom arrhythmia was not controlled by available drugs or combinations of drugs, the incidence of recurrence of sudden death within 19 months was 37%. Grayboys and others followed two groups

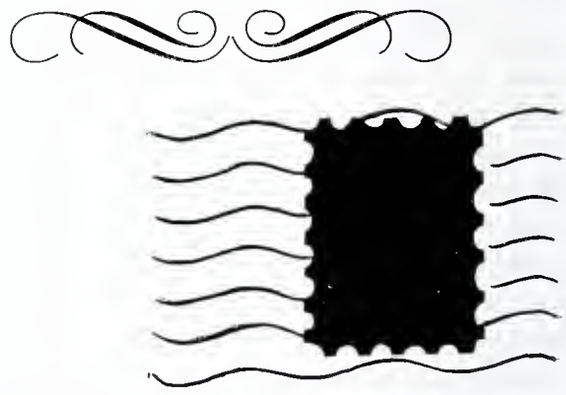
of patients over approximately 30 months. In those patients whose arrhythmia was controlled, the annual incidence of sudden death was only 2.3%, while in those patients whose ectopy was uncontrolled there was an annual incidence of recurrent sudden death of 43.6%. In Grayboys study, patients with poor left ventricular function and uncontrolled arrhythmia had a 40% incidence of recurrent sudden death per year. Somewhat more encouraging was the finding of a 3% annual incidence of sudden death with low ejection fractions but control of ventricular ectopy.

The immediate cause of death in sudden cardiac death syndrome is assumed to be lethal ventricular arrhythmias. Attention has been focused exclusively on the heart as the sole culprit whose deranged function leads to sudden cardiac death. The sympathetic nervous system may induce such arrhythmias as a result of unusual high activity, abnormal distribution pattern of cardiac sympathetic nerves or increased myocardial sensitivity to catecholamines due to underlying cardiac pathology such as myocardial ischemia.

Stimulation of specific loci in the posterior hypothalamus and in other areas of the brain can provoke a great number of diverse arrhythmias and can also lower ventricular fibrillation thresholds. Stimulating either of the right or left stellate ganglia has different effects on the heart. Cardiac vulnerability to fibrillation can be enhanced and can produce prolonged QT interval. The parasympathetic nervous system directly effects the inotropic and chronotropic properties of the ventricle. Increased afferent vagal activity increases the ventricular vulnerability threshold. This is mediated by a reflex inhibition of sympathetic outflow by sensory fibers in the parasympathetic trunk. Vagal-sympathetic interactions have lead to the use of digitalis for control of ventricular ectopy. Improvement of ventricular ectopy by digitalis is probably due to enhancement of the vagus nerve effect.

The central nervous system's role in ventricular arrhythmia and sudden cardiac death raises important questions regarding the role of higher nervous centers in the brain mediating biobehavioral changes that effect cardiac vulnerability. One would wonder if psychological stresses enhance cardiac susceptability to ventricular fibrillation and therefore lead to sudden death in some patients. Psychosocial factors may indeed contribute to the syndrome of sudden cardiac death. These patients may have acute psychological stress, recent life changes, or history of psychiatric illness. It has been noted by some investigators that more sudden deaths occur at the beginning of the week and at the end of the week as if we are either gearing up for the work week or gearing down to relax at the end of the week. A patient at particularly high risk of sudden cardiac death might therefore be the hard driving business executive who has some element of myocardial damage with subsequent vulnerability due to ischemia, abnormal left ventricular dysfunction and subsequent electrical instability.

In summary, sudden cardiac death is one of the major problems confronting cardiologists at this time. The magnitude of this problem is quite significant in that 450,000 sudden deaths occur each year. Identification of the subset of patients at high risk for sudden cardiac death would seem to be a worthwhile endeavor in terms of preventive medicine in this country. Once a high risk patient is identified, it is likely that with appropriate therapy, one might make a major impact on the incidence of this catastrophic syndrome. Therapy involves proper use of available and soon to be available antiarrhythmic drugs and demonstration of drug efficacy in abolishing complex forms of ventricular ectopy.



LETTERS TO THE EDITOR

June 28, 1984
Dr. Alfred Kahn, Jr., M.D.
1300 West Sixth Street
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Editorial Comment:

The lecture given by Dr. David Hicks at our Grand Rounds gives a good summary and a very

practical application to the clinicians approach to evaluating patients to try and prevent sudden death by predicting those patients at high risk. The first part of the following article should be committed to memory by any physician dealing with primary medicine.

When Dr. Hicks began to talk about medication as an aid to prevention of sudden death, a great number of questions surfaced. He stated, "If you can suppress the arrythmia, there is likely a decrease of sudden death." Some studies have shown that if the arrythmia is suppressed, that nineteen months mortality may be as low as 3.9 percent, but that if uncontrolled by medication, there was a very high incident of sudden death in a period of nineteen months. He then states that if you can control the arrythmia and cannot reproduce it in the lab, the prognosis seems to be much better. The assumption is made that the medication used to control is effective and would seem to prolong life.

In reality, one has to wonder if the controlled drugs are simply not a diagnostic test. That is, those that respond to drugs have a different disease than those that do not respond. Perhaps, there would be an external problem in doing a controlled study of continuing to treat the controlled patient versus a group of controllable patients, but not on medication. My personal experience actually complies with arrythmic drugs. The cost and side effects are a significant deterrent.

I am pressed to ask the question, "Should we aggressively continue anti-arrythmic drugs in the controllable patient or should we withdraw drugs and intermittently test to see if brief dosage periods would regain control?" I'm not proposing such a study be done because of the matter of ethics. Primarily, I make this statement as a matter of prospective for the physician that must deal with the non-compliant patient. Perhaps, in non compliance with anti-arrythmic drugs, the problems we perceive may not be quite so profound.

Edwin N. Barron, Jr., M.D.
Baptist Medical Center
Grand Rounds Chairman

Pediatric Update

Arbovirus Meningoencephalitis In Children

Scott J. Stern, M.D.,* Paula K. Morris, M.D.,** and Richard F. Jacobs, M.D.***

With the summer months approaching, we can expect to see an increase in certain viral illnesses including meningitis and encephalitis. Identification of specific viruses causing illness may be accomplished by sending viral cultures or by asking for specific acute and convalescent titers.

Case Report:

J. R. is a 5-year-old white male who initially presented to a local hospital with a one day history of headache and subjective fever. The day of admission he had an episode of fixed gaze, salivation, smacking lip movements and he subsequently became unresponsive to verbal stimulation. Shortly after his presentation he had a diarrheal stool and a generalized tonic clonic seizure.

A history significant for tick bite and exposure to cattle, dogs, cats, and chickens was obtained. Other family members had recently had a "flu like" illness associated with diarrhea and myalgias. A lumbar puncture was done by the local physician. The CSF glucose and protein were within normal limits. The cell count revealed 67 WBC/mm^3, 90% of which were monocytes. All other laboratory data was considered to be within normal range.

The patient was treated with moxalactam, ampicillin, and phenobarbitol and his condition improved until the third day of hospitalization at which time he had a marked change in his mental status. He became purposefully combative and less responsive to verbal stimulation. At that time the decision was made to transfer the child to Arkansas Children's Hospital (ACH) for further evaluation.

Physical examination on admission at ACH revealed a well nourished, well developed white male who appeared irritable and sleepy. Vital signs were as follows: BP 118/50, pulse 108, temperature 39.6°C. There was a grade II/VI systolic murmur which was heard best at the left sternal border. The posterior pharynx was mildly erythematous. The neurological examination was significant for meningeal signs, marked photophobia, and combative behavior. There were no focal signs.

Initial laboratory studies obtained at ACH were as follows:

CSF—198 WBCs/cc, 88% mono, 12% PMN
protein 38 mg/dl, glucose 60 mg/dl
Blood glucose—104 mg/dl
CBC—WBC 16.3 with 94% polys, 4% lymphs and 3% monos
hemoglobin 11.6 gm/dl hematocrit 35.7%
platelet count 463,000
ESR—34 mm/hr
Ammonia—68.0 μmol/l (repeated after 12 hours—11 μmol/l)
SGOT—46 IU SGPT—4 IU alkaline phosphatase—158 IU
Phenobarbitol level—12.7 gm/ml
Electrolytes, BUN, and creatinine were within normal limits.
Urinalysis was within normal limits.
Routine cultures of blood, stool, urine, and CSF were obtained as well as viral cultures of CSF, rectum and throat.
An EEG performed shortly after ACH admission showed diffuse slowing with no focal findings.

The differential diagnosis at this time included viral meningoencephalitis, shigellosis, Rocky Mountain Spotted Fever (RMSF), tularemia, leptospirosis and Reye's Syndrome.

Hospital Course

The patient was admitted to the Pediatric Intensive Care Unit and placed on intravenous ampicillin, chloramphenicol, and phenobarbitol. He had a rather unremarkable steady improvement and was transferred to a regular nursing unit the day after admission. He was discharged five days after admission on maintenance phenobarbitol and chloramphenicol (to complete a

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seven day course) to be followed closely by his local physician. A repeat EEG was scheduled one month after discharge which was found to be abnormal. The EEG was felt to be consistent with a generalized seizure disorder. All cultures obtained remained negative. Acute and convalescent titers were drawn for RMSF, enterovirus, and the arboviruses. Convalescent titers showed a 32 fold increase for La Crosse subtype and was considered to be diagnostic of California meningoencephalitis.

DISCUSSION

California encephalitis was the most prevalent arboviral encephalitis reported in the United States during 10 of the last 15 years.[1] From a historical standpoint, the California encephalitis virus was first isolated and identified in 1943[2] from the mosquito *Aedes melanimon*. Since the virus was isolated from an arthropod, it was classified with the relatively new Arbovirus (Arbo = arthropod borne) category. Significant refinements in research and taxonomy have resulted in the classification system in use today. The California encephalitis virus is now a part of the Bunyaviridae family of Arboviruses. There are 232 recognized members of the family Bunyaviridae, of which 147 are in the genus *Bunya virus*.[3] The *Bunya virus* genus is divided into 16 serogroups, one of which is the California serogroup. This serogroup is further broken down into a California encephalitis complex which is comprised of three viruses: California encephalitis, Melao and Trivittatus. The California encephalitis virus has 5 subtypes: California encephalitis, Inkoo, La Crosse, San Angelo, and Tahyna.[7] The La Crosse virus has been isolated in 13 states east of or contiguous with the Mississippi River; it has been shown to be an important pathogen of man. The natural vector for the arboviruses is the mosquito. Specifically, the vector for transmission of La Crosse virus (LAC) is *Aedes triseriatus*. This mosquito can transmit the virus both by bite and transovarially.[4] Male mosquitoes infected transovarially can transmit the virus to females via the venereal route.[5] As with most arboviral infections, LAC must have an intermediate host that serves as the amplifier for continued viral transmission. Although many small mammals have been implicated, chipmunks and squirrels have been shown to have the highest antibody titers in endemic areas.[6] Epidemiologic studies have demonstrated a striking seasonal distribution of LAC case reports with greater than 90% of cases occurring from late June through October. Studies have shown that numerous mammals can serve as hosts for LAC; these include chipmunks, squirrels, white tailed deer, foxes, cotton tail rabbits, woodchucks, racoons and opossums.[7] It should be mentioned that these studies were conducted in areas that have historically had the highest case incidence of LAC (Wisconsin, Minnesota, and Ohio). These results may in fact reflect the distribution of wildlife in this area, and it may not be possible to directly correlate mammalian transmission in a nonendemic area. Intensive study is now underway at the University of Wisconsin to determine the best method of vector control. Considerations include destruction of mosquito breeding areas, sacrifice of mammalian transmitters in endemic areas, and prediction of epidemic years through antibody monitoring of suspect mammals.[8]

The exact pathology of LAC virus infection has been difficult to ascertain for two major reasons; first, it is seldom a fatal disease, and second, autopsy permission for children has traditionally been difficult to obtain. In a recent report, two fatal cases were taken to autopsy and brain specimens were extensively studied. Histopathologically, the changes seen in LAC were similar to those found in most viral meningoencephalitides. These changes included inflammatory lesions, vasculitis and mild leptomeningitis.[9] Unfortunately, no characteristic pathologic changes that would be distinctive for LAC infection could be found.

The largest clinical study of documented LAC infection was done at the Gunderich Clinic-La Crosse Lutheran Hospital in La Crosse, Wisconsin.[10] This study included 178 cases, with a mean age of the patients being 6 years. The study was begun in 1965, one year after LAC virus was first isolated. Analysis of data revealed several pertinent findings: (a) male to female ratio is 3:2, (b) a year of high incidence is often followed by 2 years of decreasing incidence, (c) a serologically confirmed case was defined as a demonstration of a four-fold or greater antibody titer rise or fall as determined by hemagglutination-inhibition, complement-fixation, neutralization, or indirect fluorescent antibody, (d) symptom complex included fever, vomiting, headache, lethargy, stiff neck, and seizure activity, (e) the cases were divided into three groups based on seizure occur-

rence: Group I—no seizures during the acute illness (60%), Group II—seizures only during the acute illness (33%) and Group III—seizures occurring after the acute phase (9%).[10] Of major importance in this data is the finding that 20% of the patients who had seizures during the acute illness had recurrent seizure activity.[11] No laboratory result or clinical finding could be found which was predictive of eventual outcome or could be listed as characteristic for the disease. Although no one clinical pattern could be defined, two separate clinical forms were noted, a mild form and a more severe form. The mild form began with a 2-3 day prodrome of fever, headache, malaise and gastrointestinal symptoms. Temperature increased on the third day, which was usually the day of hospitalization. The third day was also the day that central nervous system (CNS) abnormalities became manifest. Both fever and CNS findings abated over a 7-8 day period. The more severe form began abruptly with fever ($> 39°C$) and headache which was soon followed by the sudden onset of focal or generalized seizures. These patients often were in need of aggressive and intensive support.[12] In addition to initial supportive measures, the most life-threatening event during hospitalization has been intractable cerebral edema; although rare, this entity can now be controlled by meticulous monitoring of intracranial pressure combined with appropriate therapeutic measures to reduce elevated ICP.

Very few extended follow-up studies have been performed to elicit specific long-term sequelae from LAC. Recent reports include a 50% rate of acute seizure activity with 20% of these patients having focal neurologic deficits. EEG's performed during the acute phase showed diffuse slowing in greater than 80% of those tested.[13] Follow-up EEG's showed persistent abnormalities in approximately 20-25% of those tested. Cognitive and intellectual functioning of children following LAC encephalitis has not been found to be significantly different from that of the normal population.[14]

The rapid diagnosis of LAC infection is desirable for both prognostic and therapeutic reasons. At the present time, serologic diagnosis of LAC infections is usually obtained through hemagglutination-inhibition (HI) or virus neutralization tests that demonstrate a four-fold or greater change in acute versus convalescent serum titers. These techniques are quite accurate, but they do not provide results in time to aid in immediate patient care. New immunologic techniques are now at the forefront of diagnosis in viral disease. The most promising of these is the EIA or enzyme immunoassay detection of IgM. In a recent study, specific IgM antibodies to LAC virus were detected in 83% (24/29) of acute-phase serum specimens that were subsequently diagnosed as LAC virus infections.[15] In comparison trials, the IgM EIA test was easily the most sensitive, and false positives for other IgM antibodies (such as rheumatoid factor) were not found. This test can be readily applied in the clinical setting and can provide results within hours of the receipt of specimens. An ancillary result of this study was the finding that past infection was most easily and accurately diagnosed by virus neutralization. Studies are now under way to modify the EIA technique to detect minute amounts of viral antigen in CSF, thereby providing unequivocal diagnosis upon admission.[16]

The current treatment regimen for viral meningoencephalitis is largely supportive in nature. No specific antiviral agents are available at this time, however, it is anticipated that LAC viral infection will be amenable to therapy in the near future. Therefore, rapid and accurate diagnosis will become paramount in selection of the most specific and efficacious agent for treatment. The identification of a case of LAC virus encephalitis demands investigation by a public health agency and/or mosquito control organization to examine the home environment to locate the breeding sites of vector mosquitoes. Accurate determination of the infectious etiology is important for providing prognostic information with regard to the continuing occurrence of seizure activity.[17]

CONCLUSION

La Crosse encephalitis is a complex disease that often results in serious neurologic sequelae. The primary vector in this disease is the *Aedes triseratus* mosquito; there are numerous mammalian reservoirs and control of viral spread is difficult. The clinical features of LAC virus encephalitis are not pathognomonic; however, the presence of a focal or tonic-clonic seizure in a child of rural residence occurring in late summer should alert the physician to the possibility of LAC or other arboviruses as a potential etiologic agent. As rapid diagnosis and specific antiviral treatment

becomes available, the identification of LAC virus will aid the physician in planning treatment and determining prognosis. With the current technology avaiiable, the physician must have a high index of clinical suspicion and should follow-up with acute and convalescent serum titers for diagnosis.

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Radiology Perspective:

Computed Tomography in Facial Bone Fractures: Le Fort Classification*

Robert M. Tirman, M.D.,† Hemendra Shah, M.D.,† Thomas Koonce, M.D.,†
Richard Fitzrandolph, M.D.,† and Edwin Fontenot, M.D.‡

INTRODUCTION

Fractures of the facial bones are often difficult to diagnose both clinically and radiographically. In a busy, crowded emergency room these types of fractures may be overlooked, with ineffective evaluation and treatment accorded to the patients. Fractures of the bones of the midfacial structures are seen most often as a consequence of the face being forcefully propelled and jammed against the dashboard or windshield of a motor vehicle decelerating from high speed to a sudden stop. Considerable damage may occur, even at a relatively slow speed, when no restraining force such as a seat belt is in use to prevent the propulsive motion of the head and destructive collision of the face with a rigid obstruction such as the dashboard. Soft tissue swelling may mask the seriousness and hide the extent of bony injuries underneath and facial bone radiography may not be obtained in some instances.

In the Caldwell and lateral projections of the usual skull examination, the dense bony structures of the petrous bones and cranial vault may be superimposed on the fractured areas making them difficult or impossible to visualize. The most revealing Water's projection may not be obtained and even in this view maxillary, nasal and orbital fractures may be difficult to demonstrate. The maxillary-zygomatic area is most important physiologically and cosmetically. Recognition of fractures, with prompt and correctly oriented management, is necessary to save the patient from ultimate deformity and loss or impairment of jaw, sinus, and nasal function. The cost of further hospitalization and plastic reparative surgery adds an unbearable and often unjustifiable burden on the patient and should be avoided when possible.

HISTORICAL NOTE AND CLASSIFICATION:

Rene Le Fort (1869-1951), a skillful French surgeon, on the basis of meticulous experimentation and dissections on human cadavers conducted at the close of the last century, concluded that three main types of fractures occurred in the maxillo-facial bones as a consequence of direct blows to these structures, the type and severity depending upon the velocity of the blow and the direction of the force applied. These three varieties of fractures formed the basis of his classification published in two articles in 1901.[1-4] Although any of the three types may occur singly, they are more often combined, particularly as a consequence of high velocity trauma associated with motor vehicle accidents of this era.

The Le Fort fractures are illustrated in figure 1, with the following classification:[1-9]

Le Fort I (transmaxillary fracture; Guerin fracture) is a fracture extending transversely across the maxilla above the alveolar process and passing through the inferior portion of the maxillary sinuses, the nasoantral walls and nasal septum. Posteriorly it crosses the pterygomaxillary fissures and the pterygoid plates in their lower thirds. The hard palate and alveolus are thereby detached from the maxilla constituting the so-called "floating" fracture. The clinician is able to demonstrate this mobility by hooking his thumb beneath the hard palate and inserting two fingers in the anterior nares thence depressing and elevating the lower fragment showing it to be freely movable. The patatal fragment may also be displaced posteriorly by a very forceful blow causing damage to the posterior pharyngeal wall with consequent respiratory obstruction.

Le Fort II (pyramidal fracture) results from a strong blow to the upper maxilla causing fractures which appear somewhat pyramidal in configuration (hence the name given). The fractures in-

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volve the nasal bones, frontal process of each maxilla and adjacent lacrimal bone, continuing downward through the inner aspect of each orbit to the inferior orbital rim at or near the zygomatico-maxillary suture. It then proceeds posteriorly along the lateral wall of the maxilla, crossing the pterygomaxillary fissure to the pterygoid plates at a higher level than that of the Le Fort I. The orbital fractures may also involve the adjacent ethmoid bone, particularly when the trauma is severe.

Le Fort III fracture (craniofacial disjunction)

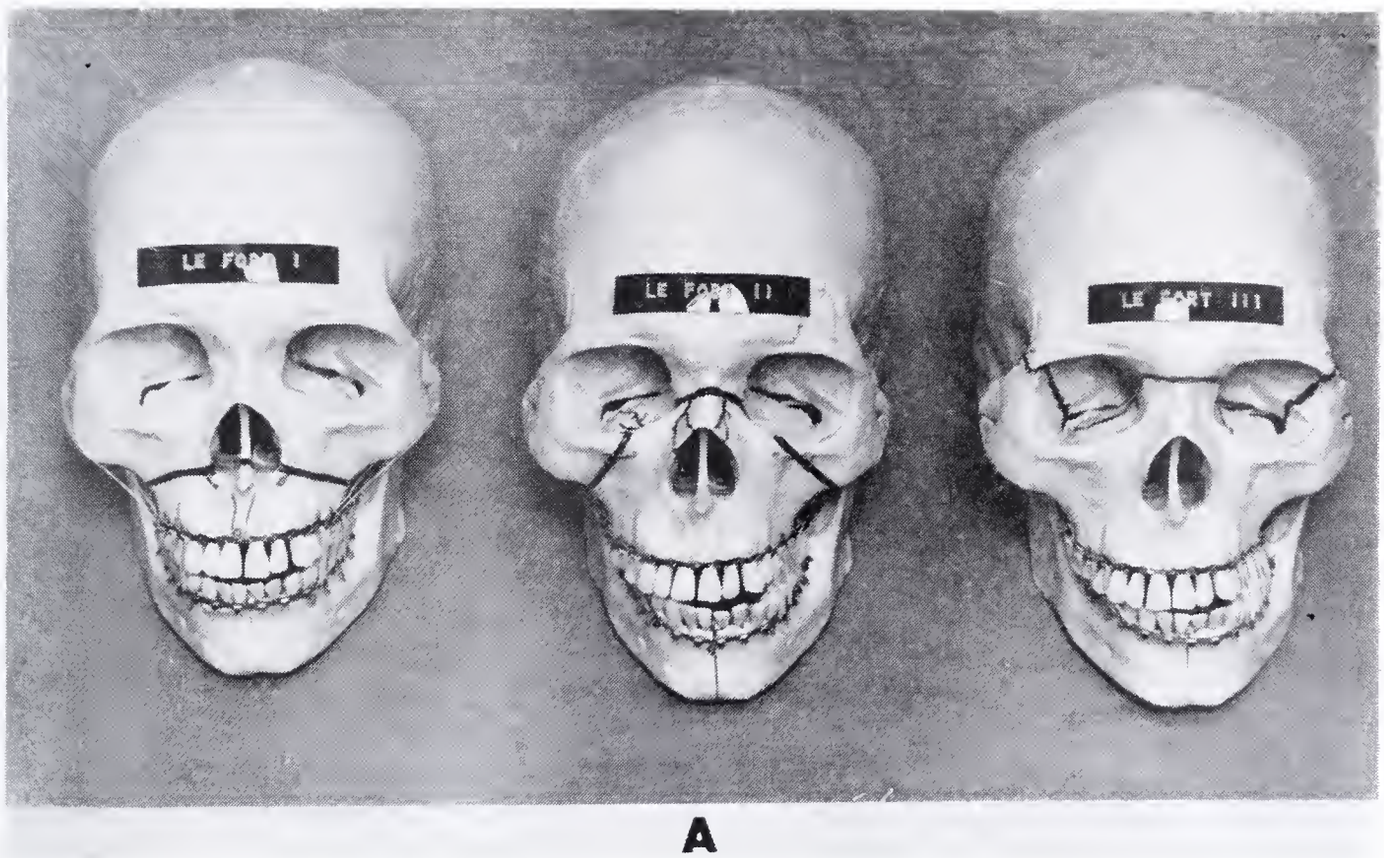


Figure 1A.*
Anterior view of Le Fort facial bone fractures in plastic models. Le Fort I: Transmaxillary (Guerin) fracture. Le Fort II: Pyramidal fracture. Le Fort III: Craniofacial disjunction. Models also demonstrate fixation of fracture fragments with dental arch bars, suspension wires and intraosseous wiring.

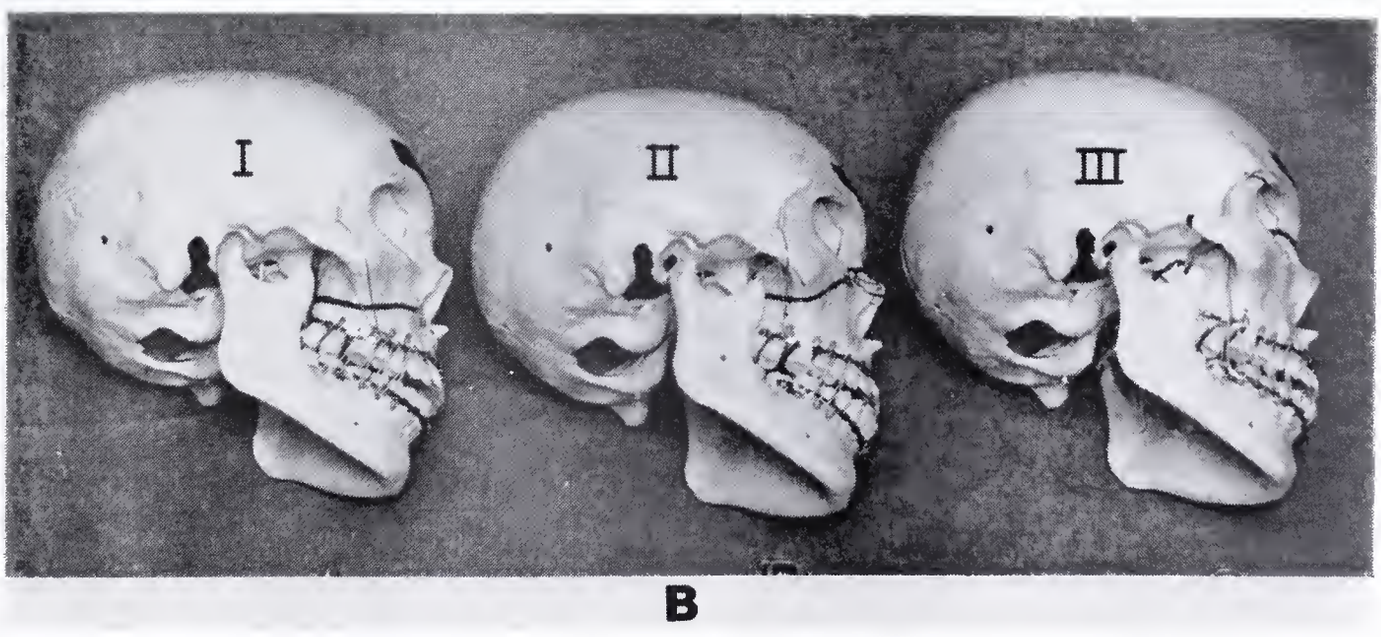


Figure 1B.*
Side view of Le Fort fractures. In all instances the posterior ramification of the fracture extends to and crosses over the pterygomaxillary fissure to involve the pterygoid plates.

is the most severe of all and is frequently associated with the Le Fort II and I fractures and other ramifications. This fracture separates the cranium from the facial bones with diastasis of the nasofrontal, maxillofrontal and zygomatico-frontal sutures, fracturing the zygomatic arches at or near the zygomatico-temporal suture. From the nasofrontal suture, the fracture extends through the inner wall of each orbit to about the junction of the superior and inferior orbital fissures adjacent to the optic foramen, continuing along the lateral orbital wall to the zygomatico-frontal suture. Posteriorly, the fracture crosses the pterygo-maxillary fissure at a higher level than the Le Fort II. In some instances, the zygomatico-frontal suture and the zygomatic arch of one side are not fractured in which case the fracture is referred to as a Le Fort III on the right or left in accordance with the side of involvement. The original description of a Le Fort III included both sides.

The initial conventional radiographic examination gives valuable screening information. Multidirectional tomography (polytomography) provides excellent bony detail revealing fractures which would otherwise be obscured by superimposition of dense bony structures in the conventional examination. The information provided by multidirectional tomography is superior in bony detail to reformatted CT images particularly in the sagittal planes. However, CT is the modality of choice to determine the full extent of fracture involvement of the facial bone structures and the calvarium, and further, it shows concurrent soft tissue abnormalities incident to the trauma which would otherwise not be imaged.[10-15]

ILLUSTRATIVE CASES:

Case 1

History: JB

A 50-year-old white male was trapped beneath a tree while bulldozing a section of his land. The major injury was to his head which was severely traumatized. The skull and facial bones sustained multiple fractures. The patient showed neurologic signs indicating severe brain injury.

Radiologic Imaging: Plain film study (limited) accompanied patient in transfer from another hospital; CT.

Findings: Severe multifacial fractures of Le Fort

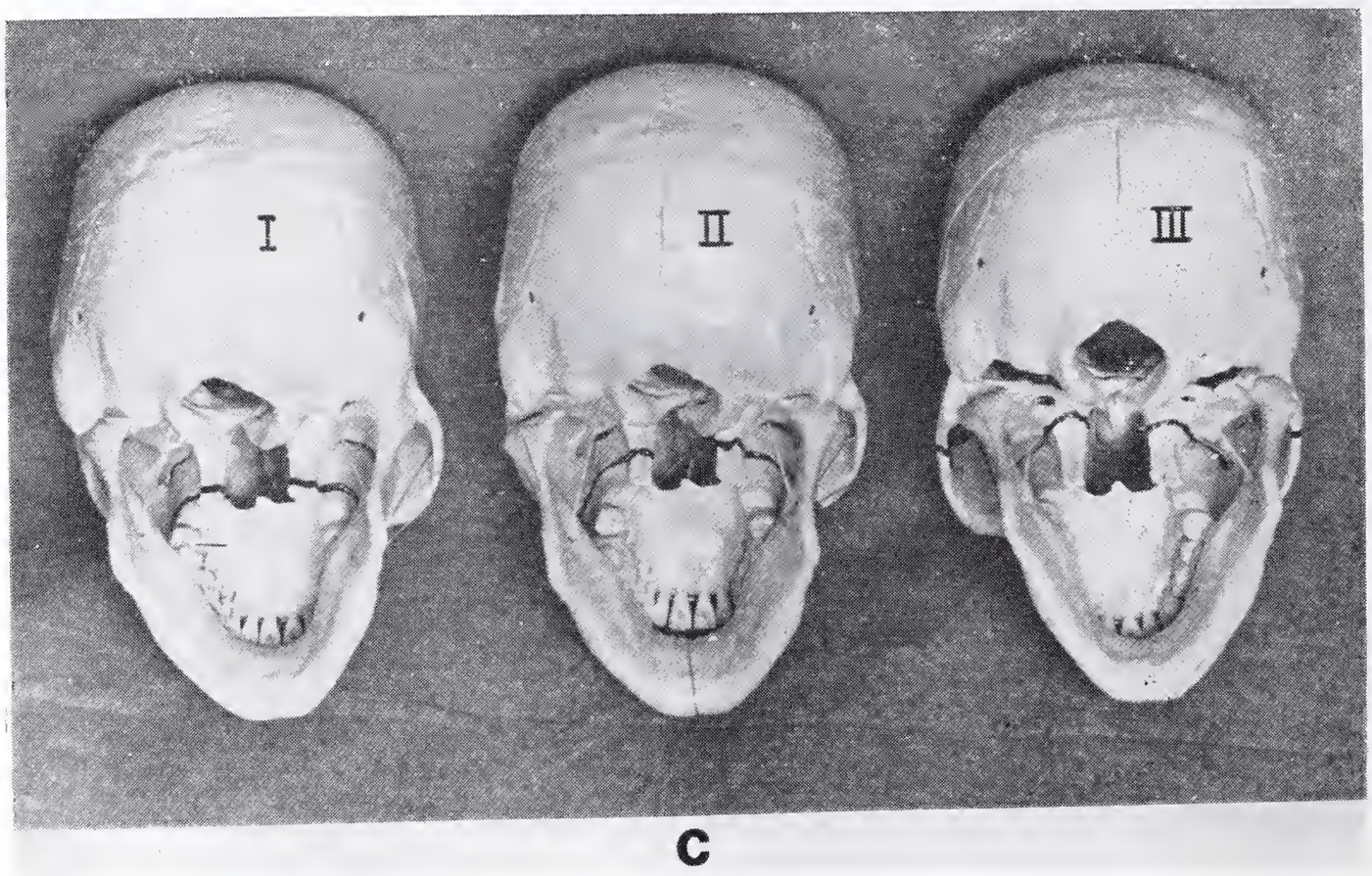


Figure 1C.*

Basal view of the Le Fort fractures: Note that fractures of the pterygoid plates are successively higher from classification I through III.
*Plastic models of Le Fort fractures prepared and provided by courtesy of Tom Smith, M.D., Otorhinolaryngology, Medical Towers Bldg., Suite 330, Little Rock, Arkansas 72204.

I, II and III types, extensive soft tissue injury to left frontotemporal region and pneumocranium (figure 2).

Case 2

History: JL

A 50-year-old black male suffered skull and facial trauma while working under his car when the jack broke and the unsupported section of the car fell on his head. He sustained multiple facial and skull fractures and was immediately blinded. There was also a CSF leak which later spontaneously subsided.

Radiologic Imaging: Plain film examination, complex motion tomography (polytomography) and computed tomography (CT).

Findings: Le Fort III (craniofacial disjunction), (figure 3).

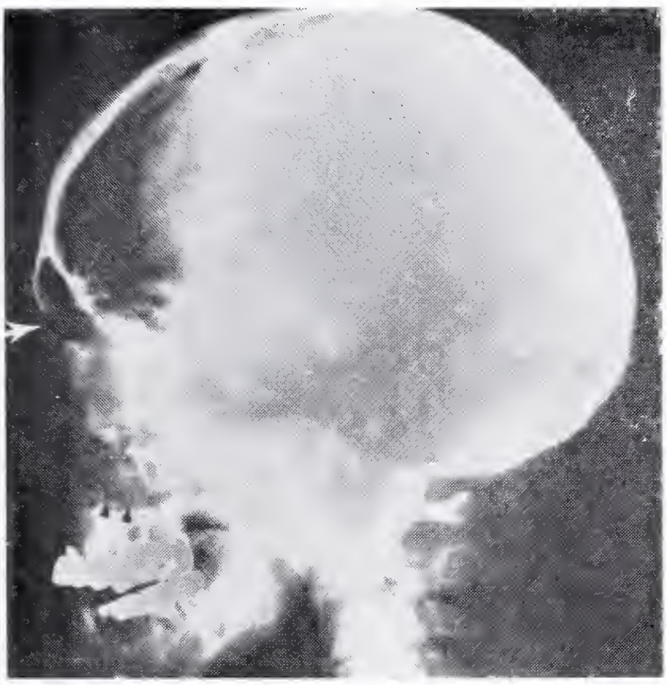


Figure 2A.

Lateral plain film. Fracture gap in anterior wall of frontal sinus (arrow) and distortion of bony landmarks of nose, ethmoid and maxillary antral regions. Transverse fracture above alveolus easily seen (arrowheads). Note open bite. Severe comminution of zygomatico-temporal complex and pneumocranium separating brain from skull.

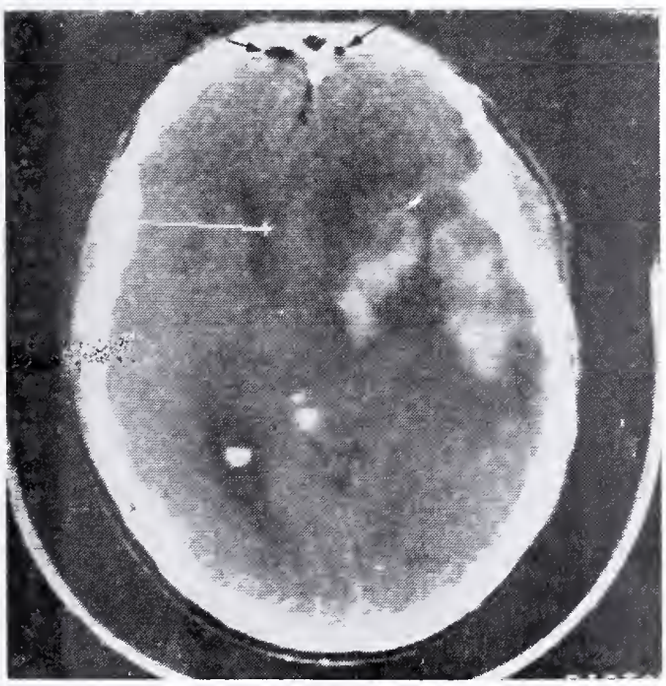


Figure 2B.

CT: Shows extensive hemorrhagic contusion of left frontotemporal region with midline shift and pneumocranium. Pneumocranium was evacuated prior to CT at other hospital. Small residual present in frontal area (arrows)

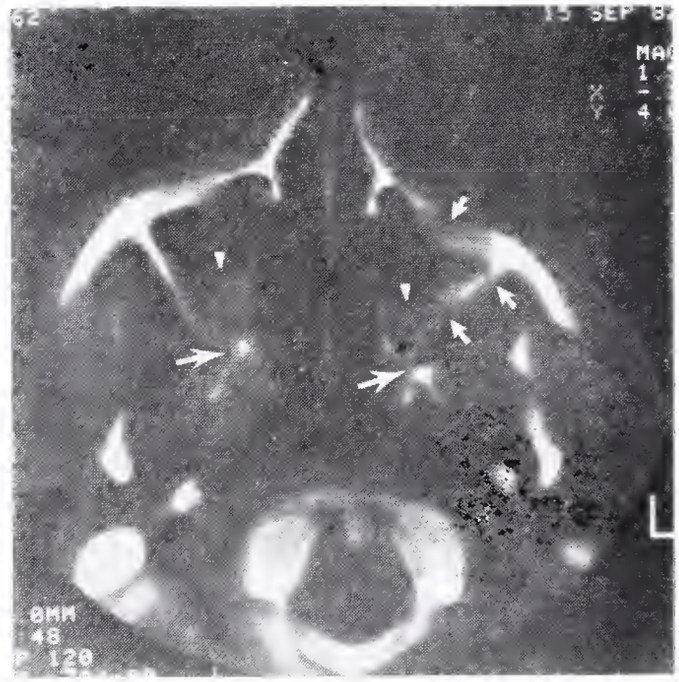


Figure 2C.

CT: Shows fracture separation of right and left pterygoid plates, greater on left side (arrows). Fluid in both maxillary sinuses (arrowheads) with fracture of anterior and posterolateral walls of left maxilla (short arrows)—Le Fort II.

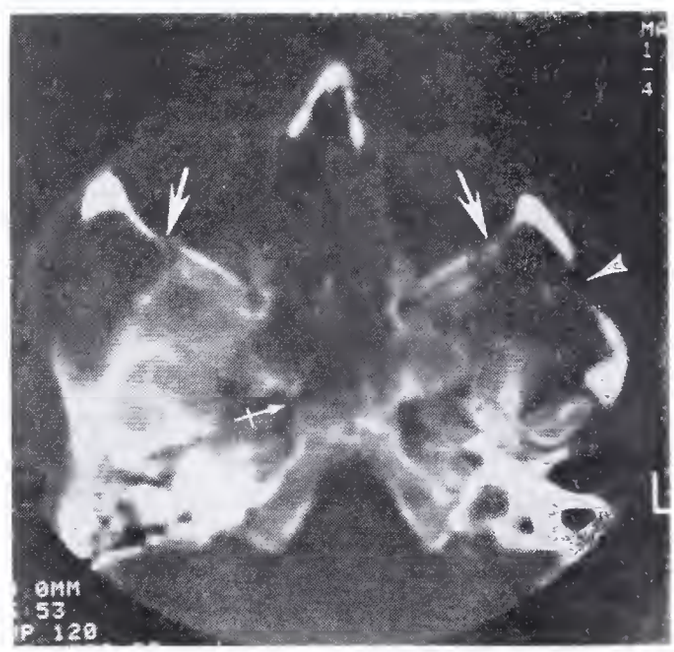


Figure 2D.

CT: Shows fracture through lateral wall of both orbits (arrows), left zygomatic arch (arrowhead) and fractured sphenoid sinus (hatched arrow). Fluid in both sphenoid and ethmoid sinuses—Le Fort III.

SUMMARY

Fractures of the facial bones may be complex and difficult to evaluate both clinically and radiographically. The Le Fort classification enables the radiologist to more logically approach the assessment of fracture disruption of the maxillofacial skeletal architecture thus simplifying the clinical assessment by the referring physician, particularly the consulting otolaryngologist.

It is important to be able to accurately determine the extent of the fractures for failure to do so may delay referral to the otolaryngologic surgeon who can effect the proper repair and avoid the unfortunate deformities which otherwise would inevitably ensue.

Conventional radiographic examination should be regarded as a screening procedure. Although multidirectional tomographic studies give excellent bone detail, computed tomography is the modality of choice when available since it not only demonstrates the fractures to advantage but also shows the extent of soft tissue damage in the facial area, and further, allows orbital and intracrainal evaluation for associated abnormalities secondary to the trauma.

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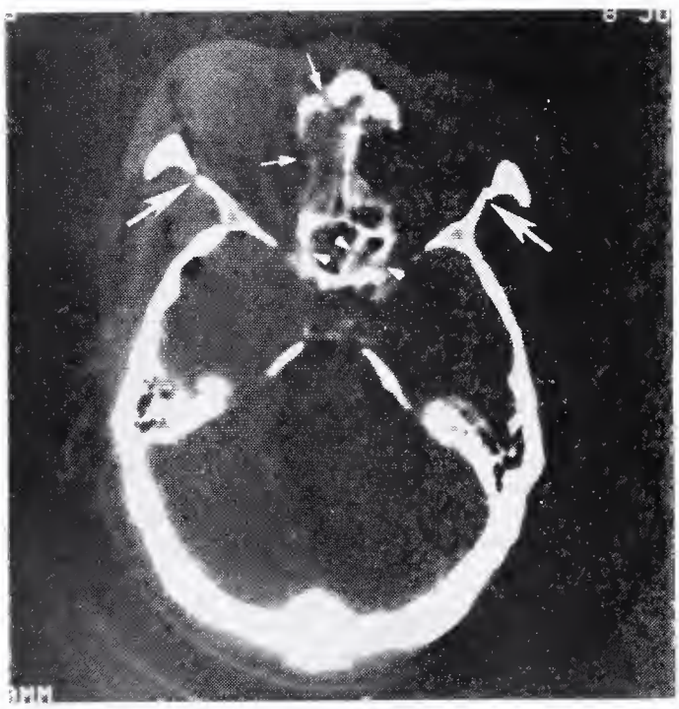


Figure 3A.

CT: Fracture through lateral orbital walls (arrows), ethmoid (short arrows) and sphenoid (arrowheads) sinuses (Le Fort III), as well as left temporal bone (hatched arrow). Air in the soft tissues, right orbit and intracranially. Scans through head at other levels showed subdural hematoma right side and cerebral contusion and scalp hematoma.



Figure 3B.

Coronal plane polytomography showing fracture of the pterygoid plates bilaterally (arrows). The sphenoid sinus compartments are opacified with contained blood and CSF leak which subsided spontaneously (arrowheads). The polytomogram provided excellent bone detail in this patient complimenting the CT findings in the axial plane.

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ANSWER — Electrocardiogram of the Month

DISCUSSION: There is o sinus tachycardia at a rate slightly over 100/minute. Diffuse ST elevation is noted in both limb and precordial leads. The PR segment is depressed in most limb and precordial leads. No reciprocity in any lead is noted to the ST elevation nor can Q-waves be identified. The aforesoid ECG features favor pericorditis as compared to infarction. The apex of the T-wave in V_6 is less than four times higher than the onset of the ST segment, using the end of the PR segment as baseline, o finding said to favor pericarditis as compared to early repolarization. Thus, the patient's history, physical and ECG are compotible with pericarditis. The feature editor wishes to thank Dr. McNee of the UAMS Division of Cardiology for her contribution to this month's ECG feature.



EDITORIAL

UCLA Conference on AIDS

Alfred Kahn, Jr., M.D.

Public information about disease is essential if there is to be an effective public health program in America. The press has been eager to write about new medical discoveries, both pertaining to diagnosis and treatment. The articles are usually well written and informative. However, a lay person is unable to evaluate the relative importance of different facets of disease. The many faces of immune disorders are puzzling to physicians and the public has recently become almost hysterical over the so-called acquired immune deficiency syndrome, known in the press and elsewhere as AIDS. To most Americans, the principal hazard to AIDS is in receiving blood products—and this is not nearly the public hazard that hepatitis poses. Many physicians are not totally knowledgeable about AIDS. For those physicians desiring an excellent short summary, the reader is referred to a UCLA Conference on the subject moderated by M. S. Gottlieb; participants are J. E. Groopman, W. M. Weinstein, J. L. Fahey, and R. Detels. (*Annals of Internal Medicine*, Volume 99, page 208, August, 1983).

As Dr. Gottlieb points out, this disease began to be reported in increasing numbers starting about the summer of 1981—and was first noted when young men turned up with Kaposi's sarcoma and what is known as "opportunistic" infection. Dr. Gottlieb goes on to say that this disorder is becoming epidemic. It was first noted in homosexuals, but was later noted in Haitians and in individuals who received blood and blood products. He feels that AIDS is probably the result of some type of transmissible agent.

Dr. Groopman, in his presentation, presented the relationship of AIDS to Kaposi's sarcoma which is a pigmented dermatologic malignant lesion. Although Kaposi's sarcoma is called a sarcoma, it is not known which cell type it derives. It consists of "vascular structures intertwined in a network of collagen fibers resting among spindle cells and laden macrophages are not infrequent". It is thought that Kaposi's sarcoma may have its origin in the endothelial cells. The discussant says that it is quite frequently found in Africa. There have been efforts to find a viral cause of Kaposi's sarcoma and some of the viruses suspected as Herpes virus, Cytomegalo virus, and others. Dr. Groopman states that prior to the AIDS epidemic, Kaposi's sarcoma has been seen in individuals who have been immuno suppressed with chemicals—such as after a kidney transplant. One of the interesting aspects of Kaposi's sarcoma which Dr. Groopman discusses is the relationship of cytomegalo virus to Kaposi's sarcoma. This virus is found in urine, semen, and other body fluids. This particular virus is said to be found in many homosexual men and the big problem which this presents is whether or not the virus is the cause of the Kaposi's sarcoma or the underlying AIDS or if it represents an infection but has no direct relationship with the Kaposi's sarcoma or the AIDS. Kaposi's sarcoma is said to usually appear on the legs but it may appear in association with lymphadenopathy associated with visceral lesions. It can be treated by radiation or anticarcinoma chemo therapeutic agents. The author states that it is possible that a virus such as cytomegalo virus could get into the nucleus of cells and involve the genetic material—DNA—and then express itself as a malignancy; he also cites how Burkitt's lymphomas seem to be related to Epstein-Barr virus.

The gastro-intestinal aspects of AIDS was discussed by W. M. Weinstein who states that the gastro-intestinal tract seems to be particularly susceptible as a so-called target organ. In his experience, "opportunistic" infection was a very major problem. He states that weight loss was an early symptom—despite adequate food intake. Some of the patients had oral and esophageal

candidiasis. This may be treated with Nystatin. Some patients have been reported to have cryptosporidiosis; Weinstein states that there is no other therapy for this disease in the gastro-intestinal tract. This particular disorder is caused by a very small protozoan which can be found in the epithelial cells of infected persons. This infection can be acquired from calves. It causes a watery diarrhoea. The extent of cryptosporidiosis in healthy individuals and the duration of the disease is unknown. As noted above, cytomegalo virus has been found in the gastro-intestinal tract. Certain of the mycobacterium family are found in the gastro-intestinal tract of immune complex individuals as well as coccidiosis. Dr. Weinstein reported that Kaposi's sarcoma involves the GI tract of 50% of the patients with this type of tumor. Evidence of the tumor may be found in almost any part of the GI tract and the lesions may be multiple. The lesions are said to resemble "raised sessile red nodules". The extent of GI involvement with Kaposi's sarcoma may not parallel in any way the degree of skin involvement—there can be considerable involvement in one area and little in the other, or vice versa.

Dr. J. L. Fahey presented the information on immunologic alteration in AIDS. He has several charts in his presentation which are of help, one of which summarizes the immune change; the cellular changes are: Delayed hypersensitivity, lymphopenia with reduced T cells, reduced numbers of T helper cells, altered T suppressor cell ratio to cytotoxic subpopulation, reduced T helper cell to T suppressor cell ratio and reduced T cell proliferation responses; the humoral changes are negative B cell numbers, increased serum IgA and IgG and elevated circulating immune complexes. Dr. Fahey started his discussion by pointing out that in AIDS the principal change in the immunologic pattern is in the T lymphocyte population. He states that the so-called B cells are negative; he reiterates immuno globulin A and B are increased and circulating immune complexes are increased. He says that antibodies to immunization are decreased, and that antibody titers to certain viruses as hepatitis B and cytomegalo viruses have been found. Lymphopenia is said to be present if there is an infection. The discussant goes on to say that homosexual men often present with various combinations of symptoms and he specifically mentions lymphadenopathy, fever, diarrhoea, etc. One interesting thing brought up by Dr. Fahey is that healthy male homosexuals are thought to have an increased risk of acquiring AIDS because of a reversal of the T helper cell ratio to the T suppressor cells. He says that the immune changes in AIDS seem to have a different pattern than other immuno deficiency disorders; he suspects a viral cause. The AIDS, once having been established, tends to be a chronic disorder. The discussant specifies that a virus with an affinitive for T cells could cause the AIDS syndrome. This author states that many aspects of the immune changes in AIDS appear similar to that of regenerating lymphoid systems; he cites the findings after total lymphoid irradiation. Another area of speculation presented here is the possibility that the causative agent of AIDS may attack some primitive type of T cell; a very immature cell. There is evidence to support this thesis. All in all, he presents a picture of the immune systems protecting the body from the onslaught of certain malignancies and infection; if this immune system is disturbed, then the barrier to these malignancies and infections is removed. Dr. Fahey did not present any program of therapy in AIDS, but says that thymic factors in certain substances such as interleukin-2 may be helpful.

The epidemiologic aspects of AIDS was discussed by Dr. R. Detels. Dr. Detels states that, in general, the greatest concentration of cases of AIDS are in the cities with the greatest number of known homosexuals. He lists some of them in order of frequency: New York City, San Francisco, Miami, Newark, Los Angeles. He further states that although there is a significant number of male homosexuals in Seattle and Denver, very few cases have been reported there. He speculates that perhaps the so-called lymphadenopathy syndrome is a forerunner of AIDS. In reviewing statistics about AIDS, this discussant states that there has been a marked increase in the number of cases diagnosed from 1979-1983. An interesting distribution of risk is given in this article, and is as follows according to percentage of cases: 79% for homosexual or bisexual men, 14.7% for I-V drug users, 4.9% for Haitians, 0.9% for persons with hemophilia. There is some evidence reported here in that AIDS may be transmitted through heterosexual contact—and to children in households where there is a case of AIDS. Patients with AIDS are said to have had a higher number of male sexual partners and have had a greater

exposure to colonic contents during the performance of sex. Dr. Detels repeats the fact that his cases with AIDS did seem to have a higher antibody level to Epstein-Barr virus and cytomegalo virus; he also mentions that these individuals have a higher titer of antibodies to Hepatitis A and syphillis. This discussant believes that it is likely AIDS is caused by some transmissible agent. He makes a further interesting statement in which he believes that Kaposi's sarcoma may be the result of a double infection: A first infection produces AIDS and then a second invader produces Kaposi's sarcoma.

All of the foregoing is summarized by Dr. Gottlieb in a brief discussion. He mentions the one thing of paramount importance and that is "effective action lies in discovering the cause"—of AIDS.

The medical profession in general should be as conversant as possible with this disorder because there is considerable public fear of this disease—probably out of proportion to its actual risk—but anyone facing the need for transfusions has a right to question the source of his blood and the possibility of acquiring AIDS through the transfusion.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Dr. Matthew Cunningham

Margaret Ross*



Dr. Matthew Cunningham was born July 5, 1784 in Philadelphia. After graduating from the University of Pennsylvania and the Philadelphia Hospital in 1808, he made a grand tour of hospitals in Europe and China. He began his practise in New Orleans, but soon moved to New York City, where he married Eliza Wilson Bertrand.

The family moved in 1817 to Missouri, where Dr. Cunningham cast his lot in 1819 with land speculators who were beginning the development of a townsite at Little Rock. He arrived at Little Rock in February of 1820, and brought his family here in September. Eliza was the town's first white woman permanent resident, and their son, Chester Ashley Cunningham, born in 1822, is said to have been the first white child born here. After the municipal government was incorporated in 1831, Dr. Cunningham became the first mayor.

Their first home at Little Rock was a log cabin near the Point of Rocks, but they soon built a house at what is now Third and Main.

Dr. Cunningham was stricken with paralysis in 1840, and suffered frequent violent attacks until his death on June 15, 1854. Eliza died December 9, 1856. They are buried at Mount Holly Cemetery.

*Historian, Arkansas Gazette, P. O. Box 1821, Little Rock, Arkansas 72203.

MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

* * * *

Administration Revives 'Baby Doe' Suit

The Reagan Administration announced in July that it filed an appeal to a court ruling that struck down the federal "Baby Doe" regulation.

In May, the U. S. District Court for the Southern District of New York invalidated the regulation, affirming that the government does not belong in cases involving the medical treatment of severely handicapped newborns.

The AMA had joined forces with other medical and hospital organizations in filing suit against the regulation, maintaining that medical decisions should be the responsibility of parents in consultation with physicians and others.

A tersely worded statement released by the White House Deputy Press Secretary Marlin Fitzwater said: "HHS has carried out its responsibility to investigate Infant Doe cases to the fullest extent of its legal authority. HHS efforts have been thwarted by court decisions invalidating Infant Doe regulations and a court injunction last month has prevented further Infant Doe investigations or other enforcement actions for the present."

"That decision is being appealed. HHS will continue to fully carry out its responsibilities to protect all infants to the fullest extent of its legal authority."

* * * *

Senate Votes Unanimously On 'Baby Doe'

The Senate voted 89 to 0 to require treatment of handicapped infants when, in the doctor's judgment, treatment would correct or ameliorate the infant's condition.

The Senate's "Baby Doe" bill was passed and sent along with the House-approved version to members of a House-Senate conference committee on July 27.

Treatment guidelines, the centerpiece of the bill, say that care should be withheld only when:

★ the infant is chronically and irreversibly comatose,

★ treatment would not correct all of the infant's life-threatening conditions,

★ treatment would merely prolong dying, or

★ treatment would be futile and inhumane.

Thus, it does not require unending treatment when an infant is doomed to die, regardless of medical efforts. Nor does it require that physicians perform surgery for correctable defects when another defect is lethal and untreatable. It also gives the physician the freedom, say the bill's sponsors, to make a "judgment call" when the child has little chance for survival.

However, it requires physicians to treat correctable defects, without regard for the child's other handicaps.

The AMA resisted passage of the bill, saying it would require states "to intervene and second-guess the individual medical decisions made by parents, in consultation with physicians." Said AMA Vice President James H. Sammons, M.D.: "The AMA is dismayed by the Senate's approval of language relating to medical care of severely ill infants, and will continue to make our concerns known as the bill goes to conference committee."

AMA President Joseph F. Boyle, M.D., does not rule out the possibility of an AMA lawsuit once the bill passes Congress. "We will have to assess very carefully the legal climate," he said. It would appear that this bill might be subject to the same kind of Constitutional challenges as were the HHS regulations that were adopted (and were struck down by a New York district court judge).

"In the interests of individuals, and the freedom of parents to make decisions on behalf of their own children, it may well be that there will be a (legal) course of action," Dr. Boyle said.

Pediatric, obstetric and hospital groups endorsed the bill, believing that their support would avert a wide-open debate on the floor of the Senate. By refusing to negotiate on "compromise" language contained in the bill, they feared that more restrictive Baby Doe provisions would be proposed.

Because the bill contains no provisions to withhold "inhumane or unconscionable" treatment, the bill puts physicians "in the intolerable posi-

tion of continuing to provide services that will provide only intense suffering," said Dr. Boyle.

The state, not federal, government would be responsible for ensuring that an infant is treated and fed. According to the bill, states would be required to set up a system of hospital representatives to report instances of medical neglect. States that fail to comply would lose part of their anti-child abuse funds.

* * * *

Nationwide Physician Fee Freeze Implemented By The Government

A deficit reduction measure that includes a rigidly-monitored 15-month freeze on physicians' Medicare fees has been signed by President Reagan, and HCFA officials are now grappling with details of its implementation.

The measure provides financial and administrative incentives for "participating physicians" who accept assignment on all Medicare claims and authorizes fines of up to $2,000 or a suspension from Medicare for up to five years on "nonparticipating physicians" found to have a pattern of increasing charges to Medicare patients during the freeze.

Now estimated to save $2.5 billion over three years, the physician fee freeze is a substantial portion of the $6.5 billion in Medicare reductions contained in the larger budget measure, called the Deficit Reduction Act of 1984 (HR 4170) and approved by Congress in late June. Other major Medicare savings come from limits on hospital reimbursement, increased Medicare premiums, and fee schedules for clinical lab services.

The freeze, in its monitoring provisions, goes beyond language adopted by either the House or the Senate in earlier deliberations on various budget bills that were tied into HR 4170. The monitoring plan was designed by House conferees with input from the White House Office of Management and Budget.

The freeze is retroactive to July 1, 1984 and will run until October 1, 1985. Fee screens will be updated each October 1. The data on which fee adjustments are based will also be moved forward by three months so as not to further increase the current 18 month "lag" on the economic index, however.

A "participating physician" concept similar to that employed by some Blue Shield plans will be set up for physicians who choose during an annual election period to take all Medicare claims on assignment, thereby agreeing to accept the Medicare allowance as full reimbursement and to bill the patient for the 20% of the allowance not covered by Medicare.

As an inducement for "participating," these physicians will be permitted during the freeze to bill Medicare their customary charges. Although their fees will remain frozen, increases in the billed charges will be considered in updating the customary charge profiles of "participating physicians" at the end of the freeze. The economic index that limits increases in prevailing charges will still apply, however.

Other incentives for "participating physicians," include listing in directories and toll-free hotlines identifying "participating physicians"; electronic billing of claims (where Medicare carriers have the capability); and permission to bill the Medicap insurer the full amount allowed by Medicare leaving the insurer to collect from Medicare.

"Nonparticipating physicians" may continue to assign Medicare claims on a case by case basis. They will, however, be monitored periodically to compare their most recent Medicare charges with their charges in the three-month period immediately following the American Medical Association's call for a voluntary freeze (April 1 to June 30, 1984). No charges in excess of those charged during the base period will be recognized when "customary charge profiles" are updated at the end of the freeze.

In addition, if the monitoring uncovers a pattern of increased fees to Medicare patients or an unusual volume of expenditures per capita the physician can, depending on a showing of intent, be fined up to $2,000 or "debarred" from the Medicare program for up to five years. The fines may be used, in some cases, to repay beneficiaries the physician "overcharged."

Any physician who is the "sole community physician" or the "sole source of essential specialized services in a community" could be fined but not removed from the program.

Many of the details of the monitoring provisions and the "participating physician" plan were left to the discretion of the Department of Health and Human Services.

* * * *

Disability Criteria To Be Updated

As part of an ongoing effort to involve medical experts more directly in the determination of disability eligibility criteria, the Social Security

Administration in July held the first of what is expected to be a series of conferences on various conditions suffered by significant numbers of disability beneficiaries.

Co-sponsored by the American Medical Association, the first conference held in Washington, on cardiovascular impairment, and was intended to serve as a model for others to follow. It involved SSA officials, outside experts and representatives of beneficiaries, employers and insurers. The intent was to look at the impact of new technology and medical treatment on patients with cardiovascular impairments and how those changes might change criteria for eligibility.

The conferences follow widespread criticism of SSA's earlier attempts to implement a 1980 law calling for periodic reviews of disability beneficiaries. The reviews, which led to the cut off of disability benefits for many mentally impaired individuals, resulted in a number of court cases and congressional efforts to modify the review process.

The major criticism has focused on the criteria used to determine medical impairment. Health and Human Services Secretary Margaret Heckler has suspended the disability reviews until Congress takes final action.

At a press conference proceeding the meeting, Heckler noted that the SSA had worked with the American Psychiatric Association and the American Psychological Association to develop new criteria for mental impairments. New mental impairment criteria will be ready for release and comment "soon," she added.

The cardiovascular area was selected as the second to be reviewed because about one fourth of Social Security's 2.6 million disability beneficiaries have cardiovascular ailments. About $5 billion of the $17.5 billion paid out in disability benefits last year went to beneficiaries with cardiovascular impairment.

Heckler said that changes in the criteria are not motivated by a desire to save money but from a need to make sure they are fair and equitable.

In a statement issued at the conference, AMA Executive Vice President James Sammons, M.D., noted that AMA had established a Committee on Medical Rating of Impairment in 1956 and between 1958 and 1970 had published 13 separate guides to the evaluation of impairment in various body systems. Collected into a single volume in 1971, the papers have been extensively updated for a second edition published this year.

* * * *

New Seatbelt/Airbag Rule Revealed

The Reagan Administration, under pressure from courts and consumer groups, is requiring automakers to put mandatory restraints or airbags in cars by 1989 if the states don't crack down.

The decision, announced in July by Department of Transportation Secretary Elizabeth Dole, represents a reversal from its position 2½ years ago when the Administration rescinded Carter-era regulations that would have required restraints in some cars in 1982.

Automakers would not have to install airbags or automatically closing seatbelts if states containing two-thirds of the population enact seatbelt legislation within 5 years requiring fines for motorists who don't buckle up, said Dole. However, only New York has approved such a fine.

In recent years, the auto industry has attempted to block such legislation, arguing that the costs exceeded the benefits. General Motors still maintains that Dole cannot tell manufacturers how to meet a performance standard; whereas she can require that a dummy withstand a 30-mph crash, she cannot require airbags, GM says.

Consumer, health, and insurance groups insist that the additional protection is worth the cost. The AMA supports both mandatory seatbelt laws and immediate implementation of rules requiring passive restraints—preferably airbags—in all new cars.

"The AMA has been outspoken in its belief that requirements like these will help improve automobile passenger safety," said Executive Vice President James H. Sammons, M.D. He expressed concern, however, about the provision in the new rule allowing the passive restraint requirement to be lifted if two-thirds of the U. S. population is covered by mandatory seatbelt rules.

* * * *

Firm Pleads Guilty In Pacemaker Scheme

Telectronics, the nation's fifth largest pacemaker manufacturer, pleaded guilty in July to federal charges of paying kickbacks to cardiologists in Rhode Island and Florida.

An estimated 312 Telectronics pacemaker implants were performed by the two doctors who received kickbacks, the company reported.

Telectronics is the second firm to plead guilty in the three-year HHS and FBI nationwide investigations of the pacemaker industry. Pace-

setters Inc. of Sylmar, CA, pleaded guilty of similar offenses.

According to U. S. District Court records, Teletronics paid Felix Balasco, M.D., of Providence, RI, between 1979 and 1982 every time he used one of the firm's pacemakers. The company also paid for a $4,800 vacation trip to the Dutch West Indies for Dr. Balasco and a Telectronics sales representative. Dr. Balasco will not comment on the company's statements.

Teletronics also said that in 1980 it paid Clifford Colin, M.D., of New Port Richey, FL, $100 for each of their pacemakers he implanted. The payments were hidden in a $9,065 equipment leasing agreement with Dr. Colin, according to court records. The company said that it leased a vectocardiograph for Dr. Colin; in return, they said, he was expected to implant about 80 Telectronics pacemakers.

Dr. Colin calls their explanation "garbage." The company leased the equipment to his office, he said, so that the physicians could offer free pacemaker testing to the community. The vectocardiograph was used five times in two years by local physicians, without charge. Dr. Colin says he made no promise to implant Teletronics pacemakers; the fact that he only infrequently used this brand of pacemaker angered Teletronics salesman, he said.

In return for the guilty plea prosecutors agreed not to press charges of Medicare fraud against six of the firm's executives. The firm is expected to pay back $243,115 to the federal government.

The physicians have not been charged with Medicare fraud. However, they still are under investigation. Robert Miller, Colorado U. S. attorney, said additional charges "may be coming down soon" in the pacemaker investigation.

The investigation was prompted in 1979 when a Colorado Springs, cardiologist complained to HHS that he was offered a bribe to use a company's product exclusively.

* * * *

Long-Acting Antibiotic Approved

The first of the new long-acting antibiotics recently approved by the Food and Drug Administration promises to save hospitals time, materials and labor. This second generation cephalosporin cefonicid (Monocid, Smith Kline & French Laboratories) was approved last month for use in urinary and lower respiratory tract infections, skin, bone and joint infections, septicemia and surgical prophylaxis.

It appears to be effective against such gram-negative organisms as *E. coli, H. influenzae, Klebsiella,* and *Proteus,* along with gram-positive organisms such as *S. pneumoniae, S. aureus,* and *S. epidermidis.*

Its most important feature, however, appears to be its long half-life. Patients normally receive between three and four doses a day. By adding a sulfonic acid side chain to the cephalosporin molecule, which slows its release into the blood, researchers developed this new one-a-day form.

Researchers report that use of a long-term antibiotic could cut back on the number of doses of drug per day as well as the number of days of antibiotic use. By reducing the number of doses each day, hospitals could save roughly $5.40 per patient each day; the overall reduction in antibiotic use could have an average of $155 per bed per year.

Additionally, patients could be treated outside the hospital rather than remaining as inpatients.

* * * *

Organ Registry Bill Passes House

The House of Representatives in July overwhelmingly approved legislation that would set up a system of coordinating for donors and recipients of organs.

The House bill, passed 396 to 6, now goes with its Senate counterpart to a conference committee where differences can be resolved. The Senate bill is a more conservative and less costly piece of legislation, because it would simply set up a task force to study the organ distribution problem.

The House bill would establish a computerized registry to match heart, liver, lung, kidney, pancreas, and bone marrow donors to recipients. It would also authorize $40 million in grants over the next four years to strengthen and expand the nation's 110 organ-procurement centers.

One controversial aspect of the bill would provide $30 million over the next two years to pay for immunosuppressive drugs for indigent patients. Opponents say that it is unfair to have the government pay for drugs needed by transplant patients, but not for drugs needed by persons with other life-threatening diseases. Supporters say the drugs are essential to the procedures' success.

* * * *

New Tampon Labels Proposed

Because tampon manufacturers haven't re-

sponded to the Food and Drug Administration's two-year drive for voluntary toxic shock ratings on their labels, the agency announced in July that it will propose a regulation rating by number the absorbencies of various products by number. The number will appear on the package with an explanation of its significance.

Findings have indicated that toxic shock tends to occur more frequently in women using foam high-absorbency tampons than in women using the cotton low-absorbency tampons. However, women have little guidance as to which product to choose.

Tampons hold between 5 and 18 grams of fluid, with Tampax Junior at the low end and Playtex Super Plus at the high end. The descriptions of "regular," "super" and "super plus" varied from brand to brand, so that one company's "regular" could be another company's "super."

A task force of tampon manufacturers, consumer groups and FDA representatives had reached an "impasse," according to acting FDA Commissioner Mark Novitch, M.D.

Consumer groups had pushed for standardization of the current descriptive terms rather than numbers.

The FDA preferred the numerical approach because it did not want to regulate the way companies describe their product.

In June, 1982, the FDA required manufacturers to include a warning about toxic shock syndrome on the boxes of their products. The new regulation simply provides quantitative information. The agency plans to launch a consumer education program to encourage teachers in junior and senior high schools to urge their students to use the least absorbent tampons necessary.

* * * *

Incentives For Prevention

A Senate bill introduced in July offers health insurers new incentives to include preventive health care services for children in their plans.

The Pediatric Health Care Incentive Tax Act, sponsored by Sen. John Chafee (R-RI) and endorsed by the American Academy of Pediatrics, would deny tax deductibility to employer group health plans which fail to offer these preventive services.

If passed, the Act would cover immunizations, blood and urinalysis tests to detect illnesses, and health exams at regular intervals.

"We are not proposing that all sniffles and bruises be covered by this plan," said Paul F. Wehrle, President of AAP. "But because preventive services are not covered by insurance plans, children are not receiving the medical treatment they need."

"Over 90% of all employment groups now have some form of private health insurance. Unfortunately, the focus is on acute care needs. We need to redesign the system to encourage preventive care—and the place to start is with children," said Sen. Chafee.

The extra care would cost employers about $2.50 per month per employee in group health plans. The Act's supporters say that this could reduce long-term costs by eliminating unnecessary hospitalizations: the cost for all services from birth through age 20 would be equal to the cost of one day in the hospital, they contend.

Tax-deductibility of employer-group health insurance plans is the second most costly of taxpayer-subsidized health programs; the government loses $35 billion a year in revenue to ensure that these programs survive. The government should reassess their investments, said Sen. Chafee and Dr. Wehrle, focusing on preventive as well as episodic acute care.

* * * *

Computer Comparisons Between Communities

Early next year health planners, business coalitions and others will be able to purchase a sophisticated software package that compares hospital capacity, per capita health care spending and incidence of various medical procedures among communities.

With the touch of a computer key, for example, a health planner in Maine could see that a child in one community is nearly seven times as likely to have his tonsils removed as a child in another Maine town. Or a rate setter could see that hospital spending per resident in Boston is twice that of nearby New Haven, even though no difference in the quality of care may be obvious.

The software's designers interpret their findings to mean that many current cost control measures—including Medicare's diagnosis related groups and the about-to-be-replaced professional standards review organizations—have mistakenly focused on hospital lengths of stay and unit costs rather than on admissions. They further assert that practice variations and higher per capita health costs are associated with excess hospital capacity and that given proper data, physicians

can be induced to reduce excess capacity.

The new software program is based on earlier work by a Dartmouth epidemiologist Jack Wennberg, M.D., M.P.H., on small area analysis of medical practice. Wennberg's studies reflect his background in epidemiology and his belief that comparing defined age and sex adjusted geographic populations is a more valid statistical technique than other approaches which look at single institutions.

More recently, Dr. Wennberg completed studies with similar results in Iowa and in conjunction with Harvard researcher Philip Caper, M.D., has related his technique to DRGs. His works are gaining increasing attention in Congress and in the business and planning communities.

Business groups, which are spreading Wennberg's findings as part of a general push for the collection and disclosure of health care data see it as a useful tool for "purchaser cost management activities." Thus, the Washington Business Group on Health and the National Association of Manufacturers recently sponsored a meeting focusing on data collection, including Wennberg's small area analysis technique, and will sponsor, along with the American Health Planning Association, special seminars demonstrating the technique this fall.

The business groups are urging that proposed confidentiality regulations for peer review organizations be loosened to permit general disclosure of physician specific data. Hospital and medical organizations—including the American Medical Association—have argued, on the other hand, that the proposed rules, which do permit release of hospital specific information, are already too loose. As a result of the controversy, the Reagan Administration is expected to hold off publishing final confidentiality rules until after elections.

* * * *

Physician Attestation Watered Down In New Regs

Months of protracted negotiations have produced a compromise of sorts on a new physician requirement that accompanied Medicare's move last year to a diagnosis related groups (DRGS) prospective pricing system.

Under the compromise spelled out in newly-proposed regulations to guide the DRG system in its second year, physicians will still have to vouch for the accuracy of the diagnosis listed in the medical records of discharged hospital patients. But, a widely-denounced accompanying statement warning the physician of the consequences of a falsified record will no longer appear in each hospital record. Instead, the physician will be asked to sign an annual statement indicating that he is aware of the penalties for fraud.

Other changes are intended to clarify that physicians are not responsible for the codes the hospital attaches to their diagnoses nor for the accuracy of procedures listed in the hospital record but performed by nurses and other hospital personnel rather than by the physician.

* * * *

Malpractice Costs Cited By Bill Sponsors

Two increasingly influential U. S. Representatives who want to apply a no-fault insurance system of sorts to medical malpractice say that the cost of malpractice insurance adds up to $3 to the cost of each visit to a physician, $5 a day to the average hospital bill, and up to $300 to the cost of some births.

The plan by Reps. Henson Moore (R-LA) and Richard Gephardt (D-MO) would limit malpractice awards for federal beneficiaries whose physician and/or hospital offered to compensate them for economic losses within six months of an occurrence that resulted in an adverse medical outcome. States would have the option of setting up their own no-fault malpractice plans.

The measure is opposed by the American Medical Association, which prefers state malpractice reforms, and by some consumer groups who believe the measure is unfair to the elderly and poor who might be frozen out of malpractice compensation—even for extreme cases—because they are not working.

Two medical specialties which have been particularly hard hit by malpractice claims and premiums—the American College of Obstetricians and Gynecologists and the American Association of Neurological Surgeons—looked at a federal solution more favorably, though they had reservations about Moore's and Gephardt's Alternative Medical Liability Act (HR 5400).

The bill's greatest support came from the Council of Community Hospitals, which has 110 of the nation's 7,000 hospitals as members, and by the Hospital Corporation of America, the world's largest hospital chain. It was also endorsed by an HMO official, academicians and a defense attorney. It is adamantly opposed by the Association of Trial Lawyers of America which claimed

casualty insurers are subsidizing other lines of insurance with "incredible profits" from medical liability premiums.

Though subject to varying interpretations, the statistics that led Moore and Gephardt to introduce their legislation are not generally disputed by any of the players. They suggest about $1.7 billion a year in premiums and another $15 billion or more a year for the "defensive" medicine physicians practice to protect themselves against malpractice charges.

The number of malpractice claims filed against U. S. physicians has more than doubled in the last five years—rising, according to AMA Board of Trustees Member James Todd, M.D., from 3.3 per 100 physicians prior to 1978 to 8 per 100 since 1978.

The problem is particularly intense in some specialties and states, however, and next year one in three Florida ob/gyns can expect to be sued for malpractice, ACOG representative Charles Gibbs, M.D., reported. Despite the fact that overall infant mortality rates are declining, 60% of ob/gyns in the United States will have a malpractice claim filed against them at some stage of their career, he added, and in New York nearly half of all ob/gyns have been sued three times or more.

The size of claims is also rising. According to Robert Pierson, a vice president of an HCA insurance subsidiary, the number of claims per bed filed against HCA owned or managed institutions increased by 50%. At the same time, total claims payout per bed increased by 297%. This year in Florida, the average payment per case is expected to be $23,800.

The impact on malpractice premiums is startling in some specialties. According to Dr. Gibbs some ob/gyns are now paying $70,000 a year. Neurologists in New York spend $60,000 a year on malpractice. Over the last 10 years, Rep. Gephardt reported, premiums have increased by 131%. Last year, they averaged $6,350 per physician but the charges vary drastically. Some physicians in Indiana, which has a highly-regarded malpractice reform law, pay only $1,200 a year for medical liability.

The impact is clear in the hard-hit specialties. Nine percent of ob/gyns quieried in one survey have given up the practice of obstetrics entirely; 20% avoid caring for high risk pregnancies. A Florida survey also found that 80% of ob/gyns are ordering more tests to protect themselves against a malpractice action; 70% are using fetal monitoring more often; and 50% are conforming more of their own findings through referrals.

* * * *

Technology Cited As Major Cost Factor

Medicare has made new technology accessible to the nation's growing numbers of elderly and disabled citizens, but the new technology has not always been used wisely and is responsible for more than one-fourth of a 107% increase in Medicare costs between 1977 and 1982, according to a Congressional research office.

The report by the Congressional Office of Technology Assessment suggests possible mechanisms for controlling technology-associated costs including more direct government involvement in Medicare coverage decisions and changes in hospital and physician reimbursement. Options for physician payment changes include fee schedules, reductions in fees for certain specialties and mandatory assignment of claims.

According to OTA, payments per Medicare enrollee rose an average of 19% per year between 1977 and 1982. The report notes that life expectancy and health status of the elderly improved during the same period, but concludes nevertheless that "there is substantial evidence to suggest that inappropriate use of medical technology is common and raises Medicare and health system costs without improving quality of care."

Most of the increase in Medicare costs was due to general inflation, the report said; however, about 28% was related to medical technology. This included a 25% increase due to expanded use of services and a 3% increase in medical prices above the general inflation rate.



Announcement

Dr. F. Hampton Roy was invited by the Argentine Ophthalmology Society to participate in their annual program as their featured speaker. Over 500 ophthalmologists attended this conference, which was held in Buenos Aires on July 25-27, 1984. Dr. Roy delivered three talks entitled "Cataract Surgery With Intraocular Lens Implantation", "Microsurgery", and "Recent Advances

In Ophthalmology". He also participated in two panel discussions.

Dr. Roy is a charter member of the Argentine Intraocular Lens Society and a charter member of the American Intraocular Lens Society. His last trip to Argentina was in 1979. Three of his books —*Ocular Differential Diagnosis, Ocular Therapy,* and *Intraocular Lenses*—have been translated into Spanish.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

FALL FAMILY PRACTICE UPDATE

Presented by Ben N. Saltzman, M.D., *November 3, 8:00 a.m.-4:15 p.m.,* UAMS Education Building, Room G/141, Little Rock. Six hours Category I credit. Sponsored by UAMS. Fee $40.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.
Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
Peer Exchange, November: "Cardiology", December: "Infectious Diseases."

JONESBORO — AHEC-NORTHEAST

Weekly Medical Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Interesting Case Conference, second Tuesday and fifth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Child Neurology Conference, first Monday, 8:00 a.m., Second Floor Classroom.
Pediatric Radiology/Genetics Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom (cancelled for November).
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, SecondFloor Classroom.
Primary Care Seminar and Case Presentation, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Surgery Conference, each Thursday, 7:30 a.m. to 8:30 a.m., Conference Room #1.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E-159, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E-159, Education Wing.
Gynecology Conference, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors' Dining Room.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.
Neuropathology Conference, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S1174K, Laboratory.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Cancer Conference, fourth Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

PINE BLUFF — AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.



PERSONAL AND NEWS ITEMS

DR. WENGER SPEAKS

Dr. Carl E. Wenger of Little Rock was the featured speaker for the first Annual Men's Retreat of the Ozark Conference. Dr. Wenger is one of the founders of the Ozark Conferences, a Little Rock-based Christian conference ministry.

DR. ETHERINGTON PRESIDENT

Dr. Robert Etherington of Eureka Springs was installed president of the Arkansas Academy of Family Physicians at its recent annual meeting. Dr. Les Anderson of Lonoke is president-elect, Dr. Harold Hedges of Little Rock is vice-president and Dr. Steve Tilley of Little Rock is treasurer.

RECEPTION FOR PHYSICIANS

The Delta Medical Center and the City of Brinkley hosted a reception to welcome Drs.

Linda Collins, Henein Iskander, Morris Iskander, Richard Plant, Dac Tat Pham and Lance Whaley to the Brinkley area.

SEMINAR SPEAKERS

Dr. Ralph Ligon of Pine Bluff spoke on "Abdominal Aortic Aneurysms" and Dr. Thomas E. Townsend, also from Pine Bluff, spoke on "Pediatrics" at a seminar for the Jefferson County Medical Assistants.

DR. MARIS ON BOARD

Dr. Mahlon Maris of Harrison has been elected to the board of directors of the First National Bank in Harrison.

DR. HOWE

The Burton-Eisele Clinic in Hot Springs has announced the association of Dr. H. Joe Howe in the practice of Cardiovascular and Thoracic Surgery.

DR. GULLETT PROMOTES FITNESS

Dr. Robert Gullett of Pine Bluff was one of several individuals to co-sponsor with the University of Arkansas at Pine Bluff a seminar entitled "Fitness and the Individual." Dr. Gullett discussed the benefits of aerobic exercises in keeping fit.

DR. JORDAN SPEAKS

Dr. Richard F. Jordan of North Little Rock spoke on "What is Life" at a symposium on "Death and Dying: Challenge and Change" at the University Conference Center in Little Rock.

DR. McAFEE LOCATES

Dr. Dewey R. McAfee has opened the McAfee Medical Clinic at 101 Windwood Drive, Suite 5, in Beebe for the practice of General Medicine and Obstetrics.

DR. McCLAIN SPEAKS

Dr. Charles McClain of Batesville was guest speaker at a recent meeting of the Kiwanis Club; his subject was the Computerized Axial Tomography Scan.

DR. THOMPSON OPENS OFFICE

Dr. Stephen M. Thompson has opened an office for the practice of Pediatrics at 1200 North Main in Benton.

DR. KING HONORED

Dr. Joe D. King of Nashville was presented a plaque in recognition of his nine years as chief of staff at the Howard County Memorial Hospital. Dr. Sammy Peebles is the new chief of staff and Dr. Douglas Buckley is secretary.

DR. MAHON ELECTED

Dr. Larry Mahon of Jonesboro has been elected to the board of directors of the Home Federal Savings and Loan in Jonesboro.

DR. ABISEID IN CLINTON

Dr. Jose Abiseid has opened the Family Practice Center in Clinton.

DR. FRASER HONORED

Dr. David B. Fraser of El Dorado was honored at the annual conference of the Arkansas Division of Mental Health for his thirteen years of service to South Arkansas.

DR. DENSON SPEAKS

Dr. Dillard Denson of North Little Rock spoke at a meeting of the Alzheimer Support Group of Central Arkansas.

DR. ROY FEATURED SPEAKER

Dr. F. Hampton Roy of Little Rock was the featured speaker at the annual program of the Argentine Ophthalmology Society.

DR. GREEN MOVES

Dr. Linda Haynie Green of Pine Bluff has moved her office to 1600 West 42nd. Dr. Green is an Internist.

DR. JANSEN IN ARKADELPHIA

Dr. Mark T. Jansen has opened an office for Family Practice at North 26th and Pine Streets in Arkadelphia.

DR. SKAUG SEMINAR SPEAKER

Dr. Warren Skaug of Jonesboro was a speaker for a seminar on "Pediatric Infectious Disease" sponsored by St. Bernard's Regional Medical Center.

DR. GRAY SPEAKER

Dr. David Gray of Jonesboro addressed the Piggott Chapter of the American Association of Retired Persons on the prevention of cancer.

DR. WESTBROOK GUEST SPEAKER

Dr. Kent Westbrook of Little Rock was guest speaker for the recent meeting of the Columbia County Unit of the American Cancer Society.

DR. DODD SPEAKS

Dr. Leland Dodd of Hope spoke on Pathology at a meeting of the Kiwanis Club. Dr. Jim McKenzie, also of Hope, was program chairman for the meeting.

DR. GEHRKI LOCATES

Dr. Gary P. Gehrki has opened an office in the Woodlands Medical Park in Arkadelphia. Dr. Gehrki specializes in Internal Medicine.

OBITUARY

DR. ROARY A. MURCHISON

Dr. Murchison of Fort Smith died August 20, 1984. He was born August 5, 1900, in Equality, Alabama.

Dr. Murchison was graduated in 1924 from the University of Alabama. He was a 1928 graduate of the University of Louisville School of Medicine in Louisville, Kentucky.

Dr. Murchison joined the United States Army Medical Corps after graduation from Medical School. Dr. Murchison was a recipient of the Bronze Star during World War II. He served as commander of the hospital at Fort Chaffee from 1951 to 1955. Dr. Murchison retired from the Army in 1955 with the rank of Colonel.

Dr. Murchison served as director of the student health program at Ohio University in Athens, Ohio, from 1955 to 1964. He opened an office in Lavaca in 1964 for the practice of General Medicine.

Dr. Murchison was a fellow of the American College of Surgeons, a member of the Fifty Year Club of the Arkansas Medical Society and a life member of the Medical Society.

He is survived by his wife, Helen Murchison; a daughter; his son Dr. Roary Murchison, Jr., of Los Angeles, California; and another son.



NEW MEMBERS

DR. MICHAEL E. KORDEK

Dr. Kordek is a new member of the Conway County Medical Society. He was born in New Britain, Connecticut.

Dr. Kordek received a Bachelor of Arts degree in Biology from the Merrimack College in North Andover, Massachusetts. He was graduated in 1981 from the University of Connecticut School of Medicine. His internship and Family Practice residency were at St. Margaret Memorial Hospital in Pittsburgh, Pennsylvania, from 1981 to 1984.

Dr. Kordek took his examination for board certification in Family Practice in July 1984.

Dr. Kordek is in Family Practice at the Perryville Health Care Center, Routes 10 and 60 in Perryville.

DR. MICHAEL F. KNOX

Dr. Knox, a new member of the Pulaski County Medical Society, was born in Springfield, Missouri.

Dr. Knox received a Bachelor of Science degree in 1975 from the University of Oklahoma in Norman. He is a 1979 graduate of the University of Texas Southwestern Medical School at Dallas.

Dr. Knox served his internship in Internal Medicine at Yale-New Haven Hospital in New Haven, Connecticut. His residency training in Radiology was with Parkland Memorial Hospital in Dallas. Dr. Knox served a Radiology Fellowship at Emory University in Atlanta, Georgia. He is board certified in Radiology.

Dr. Knox specializes in Radiology. His office is at 500 South University in Little Rock.

DR. HAROLD K. SHORT

Dr. Short, another new member of the Pulaski County Medical Society, is a native of Little Rock.

He is a 1974 graduate of Hendrix College in Conway and a 1978 graduate of the University of Arkansas College of Medicine. Dr. Short received his training in Family Practice at the Naval Aerospace and Regional Medical Center in Pensacola, Florida. He also practiced at the United States Naval Hospital in Millington, Tennessee.

Dr. Short is board certified in Family Practice.

Dr. Short has joined the Crestview Family Clinic at #2 Crestview Plaza in Jacksonville.

DR. WILLIAM L. YEH

Dr. Yeh has joined the Sevier County Medical Society. He is a native of Port Elizabeth, South Africa.

Dr. Yeh received a Bachelor of Science degree in 1951 and a Doctor of Philosophy degree in 1955 from the University of London in England. He is a 1966 graduate of the University of London

Faculty of Medicine in England. Dr. Yeh served his internship in London, England, and his residency at the University of Chicago.

Dr. Yeh was in private practice in Radiology from 1969 to 1984 in Chicago. He served as Staff Radiologist for the University of Chicago and the University of Illinois.

Dr. Yeh specializes in Diagnostic Radiology; his office is at 1521 North 14th Street in DeQueen.

THINGS TO COME



November 24

Magnetic Resonance Imaging and Spectroscopy in the Federal Government. Sponsored by the San Francisco Veterans Administration Medical Center. Hilton Hotel, Washington, D. C. Registration $100. 7 hours Category I AMA. For further information, call 415-666-5731.

January 7-11

MRI, CT and Interventioual Radiology. Radiology Research and Education Foundation of the University of California School of Medicine, San Francisco. 27 hours Category I AMA. Fairmont Hotel and Tower, San Francisco. Fee $425. For further information, call 415-666-5731.

January 14-18

Second Annual Ixatapa Postgraduate Course in Diagnostic Radiology. Department of Radiology, University of California School of Medicine in San Francisco. Camino Real, Ixtapa, Mexico. 32 hours Category I AMA. Fee $425. For further information, call 415-666-5731.

February 2-9

Second Annual Aspen Postgraduate Course in Diagnostic Radiology. Department of Radiology, University of California School of Medicine, San Francisco. The Gant, Aspen, Colorado. 21 hours Category I AMA. Fee $425. For further information, call 415-666-5731.

March 11-15

28th Annual Postgraduate Diagnostic Radiology Course University of California School of Medicine, San Francisco. Fairmont Hotel and Tower, San Francisco. 27 hours Category I AMA. Fee $425. For further information, call 415-666-5731.

March 18-23

Diagnostic Imaging 1985: CT, Ultrasound, MRI and Interventional Radiology. Department of Radiology, University of California School of Medicine in San Francisco. Waiohai Hotel, Poipu Beach, Kauai, Hawaii. 26 hours Category I AMA. Fee $425. For further information, call 415-666-5731.

April 17-21

109th Annual Session of the Arkansas Medical Society. Arlington Hotel, Hot Springs.

RESOLUTIONS



DR. EWIN S. CHAPPELL

WHEREAS, the members of the Pulaski County Medical Society note with sincere and deep sorrow the death of their colleague, Ewin S. Chappell, M.D., and

WHEREAS, he had been a member of this organization for twenty-five years and was held in high esteem by his fellow physicians, and

WHEREAS, Dr. Chappell was recognized for his contributions in the field of Psychiatry, his chosen specialty.

BE IT THEREFORE RESOLVED:

THAT, this resolution be made a part of the permanent records of this Society, and

THAT, a copy of this resolution be forwarded to Dr. Chappell's family as an expression of our sincere sympathy, and

THAT, a copy of this resolution be sent to the Journal of the Arkansas Medical Society for publication.

ADOPTED: Executive Committee
Pulaski County Medical Society

By order of the Memorials Committee
John D. Pike, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.

DR. WILFRED J. SCHWARZ

WHEREAS, the membership of the Pulaski County Medical Society wishes to express its sense of great loss in the death of an honored colleague, Wilfred J. Schwarz, M.D.; and

WHEREAS, he had been an interested member of the Society for forty-two years and had gained the respect of his fellow physicians for his dedication to his specialty of Ophthalmology; and

WHEREAS, Dr. Schwarz was recognized for his well-earned reputation for his deep concern for the well-being of his patients.

BE IT THEREFORE RESOLVED:

THAT, this resolution be placed in the archives of the Pulaski County Medical Society; and

THAT, a copy of this resolution be forwarded to Dr. Schwarz's family as a token of our sincere sympathy; and

THAT, a copy be made available to the Journal of the Arkansas Medical Society for publication.

ADOPTED: Executive Committee

Pulaski County Medical Society
By order of the Memorials Committee
John D. Pike, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.

e prescribing, see complete prescribing information in
CO. literature or *PDR*. The following is a brief summary.

RNING

s drug is not indicated for initial therapy of edema or
ertension. Edema or hypertension requires therapy
ted to the individual. If this combination represents the
age so determined, its use may be more convenient in
ent management. Treatment of hypertension and edema
ot static, but must be reevaluated as conditions in each
ent warrant.

aindications: Concomitant use with other potassium-
g agents such as spironolactone or amiloride. Further use
na, progressive renal or hepatic dysfunction, hyperkalemia.
sting elevated serum potassium. Hypersensitivity to either
onent or other sulfonamide-derived drugs.

**ngs: Do not use potassium supplements, dietary or other-
unless hypokalemia develops or dietary intake of potas-
is markedly impaired.** If supplementary potassium is
d potassium tablets should not be used. Hyperkalemia
ccur, and has been associated with cardiac irregularities. It
re likely in the severely ill, with urine volume less than one
ay, the elderly and diabetics with suspected or confirmed
nsufficiency. Periodically, serum K^+ levels should be deter-
d. If hyperkalemia develops, substitute a thiazide alone,
t K^+ intake. **Associated widened QRS complex or arrhyth-
equires prompt additional therapy.** Thiazides cross the
ntal barrier and appear in cord blood. Use in pregnancy
es weighing anticipated benefits against possible hazards,
ng fetal or neonatal jaundice, thrombocytopenia, other
se reactions seen in adults. Thiazides appear and tri-
ene may appear in breast milk. If their use is essential, the
t should stop nursing. Adequate information on use in
en is not available. Sensitivity reactions may occur in
ts with or without a history of allergy or bronchial asthma.
ble exacerbation or activation of systemic lupus erythe-
sus has been reported with thiazide diuretics.

utions: Do penodic serum electrolyte determinations (par-
ty important in patients vomiting excessively or receiving
teral fluids, and during concurrent use with amphotericin B
rticosteroids or corticotropin [ACTH]). Periodic BUN and
creatinine determinations should be made, especially in
derly, diabetics or those with suspected or confirmed renal
ciency. Cumulative effects of the drug may develop in
ts with impaired renal function. Thiazides should be used
aution in patients with impaired hepatic function. They can
itate coma in patients with severe liver disease. Observe
rly for possible blood dyscrasias, liver damage, other idio-
atic reactions. Blood dyscrasias have been reported in
ts receiving triamterene, and leukopenia, thrombocyto-
agranulocytosis, and aplastic and hemolytic anemia have
reported with thiazides. Thiazides may cause manifestation
nt diabetes mellitus. The effects of oral anticoagulants may
creased when used concurrently with hydrochlorothiazide;
ge adjustments may be necessary. Clinically insignificant
tions in arterial responsiveness to norepinephrine have
reported. Thiazides have also been shown to increase the
zing effect of nondepolarizing muscle relaxants such as
uranine. Triamterene is a weak folic acid antagonist. Do
dic blood studies in cirrhotics with splenomegaly. Anti-
tensive effects may be enhanced in post-sympathectomy
ts. Use cautiously in surgical patients. Triamterene has
found in renal stones in association with the other usual
us components. Therefore, 'Dyazide' should be used with
n in patients with histories of stone formation. A few occur-
s of acute renal failure have been reported in patients on
de' when treated with indomethacin. Therefore, caution is
ed in administering nonsteroidal anti-inflammatory agents
Dyazide'. The following may occur: transient elevated BUN
eatinine or both, hyperglycemia and glycosuria (diabetic
n requirements may be altered), hyperuricemia and gout,
is intoxication (in hypokalemia), decreasing alkali reserve
ossible metabolic acidosis. 'Dyazide' interferes with fluores-
neasurement of quinidine. Hypokalemia is uncommon with
de', but should it develop, corrective measures should be
such as potassium supplementation or increased dietary
of potassium-rich foods. Corrective measures should be
ted cautiously and serum potassium levels determined.
ntinue corrective measures and 'Dyazide' should laborа-
alues reveal elevated serum potassium. Chloride deficit
ccur as well as dilutional hyponatremia. Concurrent use
chlorpropamide may increase the risk of severe hypo-
mia. Serum PBI levels may decrease without signs of thyroid
balance. Calcium excretion is decreased by thiazides.
de' should be withdrawn before conducting tests for para-
d function.

des may add to or potentiate the action of other antihyper-
e drugs.

tics reduce renal clearance of lithium and increase the risk
um toxicity.

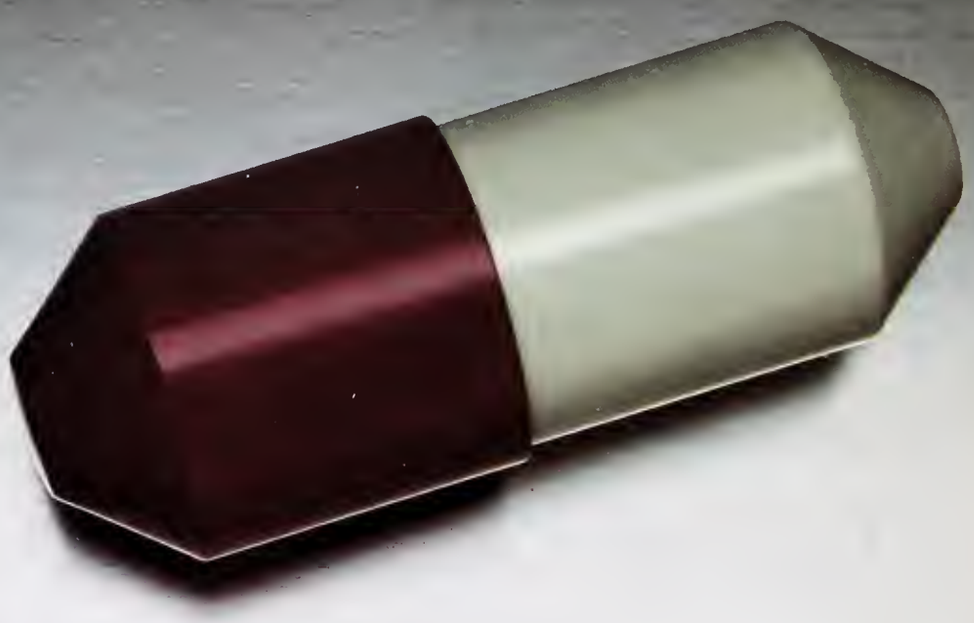
rse Reactions: Muscle cramps, weakness, dizziness, head-
dry mouth, anaphylaxis, rash, urticaria, photosensitivity,
ura, other dermatological conditions; nausea and vomiting,
ea, constipation, other gastrointestinal disturbances; pos-
hypotension (may be aggravated by alcohol, barbiturates,
rcotics). Necrotizing vasculitis, paresthesias, icterus,
eatitis, xanthopsia and respiratory distress including pneu-
is and pulmonary edema, transient blurred vision, sialade-
and vertigo have occurred with thiazides alone. Triamterene
been found in renal stones in association with other usual
lus components. Rare incidents of acute interstitial nephritis
been reported. Impotence has been reported in a few
nts on 'Dyazide', although a causal relationship has not
established.

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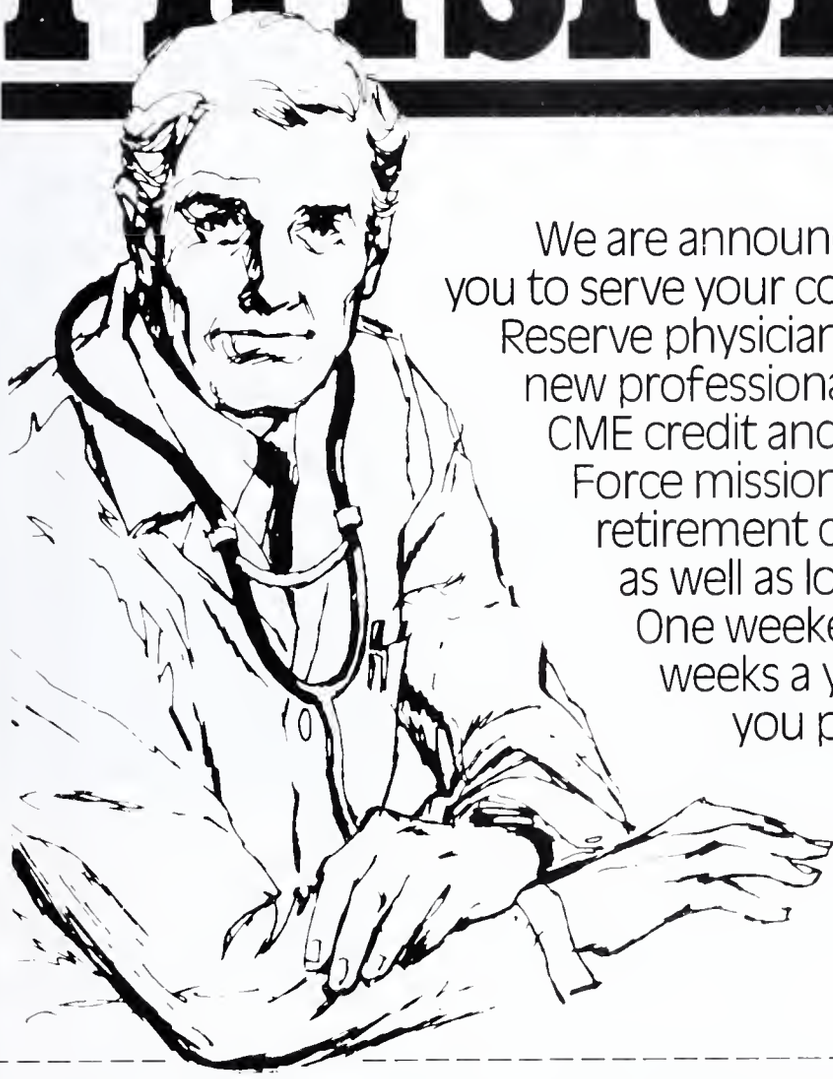
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Fayetteville is a city of 36,000 in Northwest Arkansas and is a medical referral center for approximately 200,000 people. It is a college community—home of the main campus of the University of Arkansas. The economy in Northwest Arkansas and Fayetteville is thriving and is based primarily on educational and vocational aspects of the University Campus and recreational facilities associated with the Arkansas Ozarks.

MOUNTAIN HOME. Opportunity exists for an otorhinolaryngologist to complement the active medical staff of 32 physicians, 22 of whom are board certified. Most specialties, both medical and surgical, are represented. Various financial incentives are available to physicians to relieve the pressure and burden of beginning a medical practice. The community is served by the Baxter County Regional Hospital which is JCAH accredited and currently has 135 beds.

The city of Mountain Home itself has a population of 10,000. During the winter months the population of this region is approximately 70,000 and soars to over 100,000 during the peak vacation periods. Hunting, fishing, white water canoeing, biking or sightseeing in the beautiful Ozarks are all available. This location in the Ozarks serves a diverse variety of patients.

FORREST CITY. The community of Forrest City has a population of approximately 14,000 and a trade area population of 70,000. Opportunities exist in the field of internal medicine, orthopaedic surgery, and pediatrics. The community is located on Interstate 40, 45 miles from Memphis, Tennessee, and 90 miles from Little Rock. The community has a full service 112 bed JCAH accredited hospital. A completely new 118 bed replacement facility will be completed in 1985.

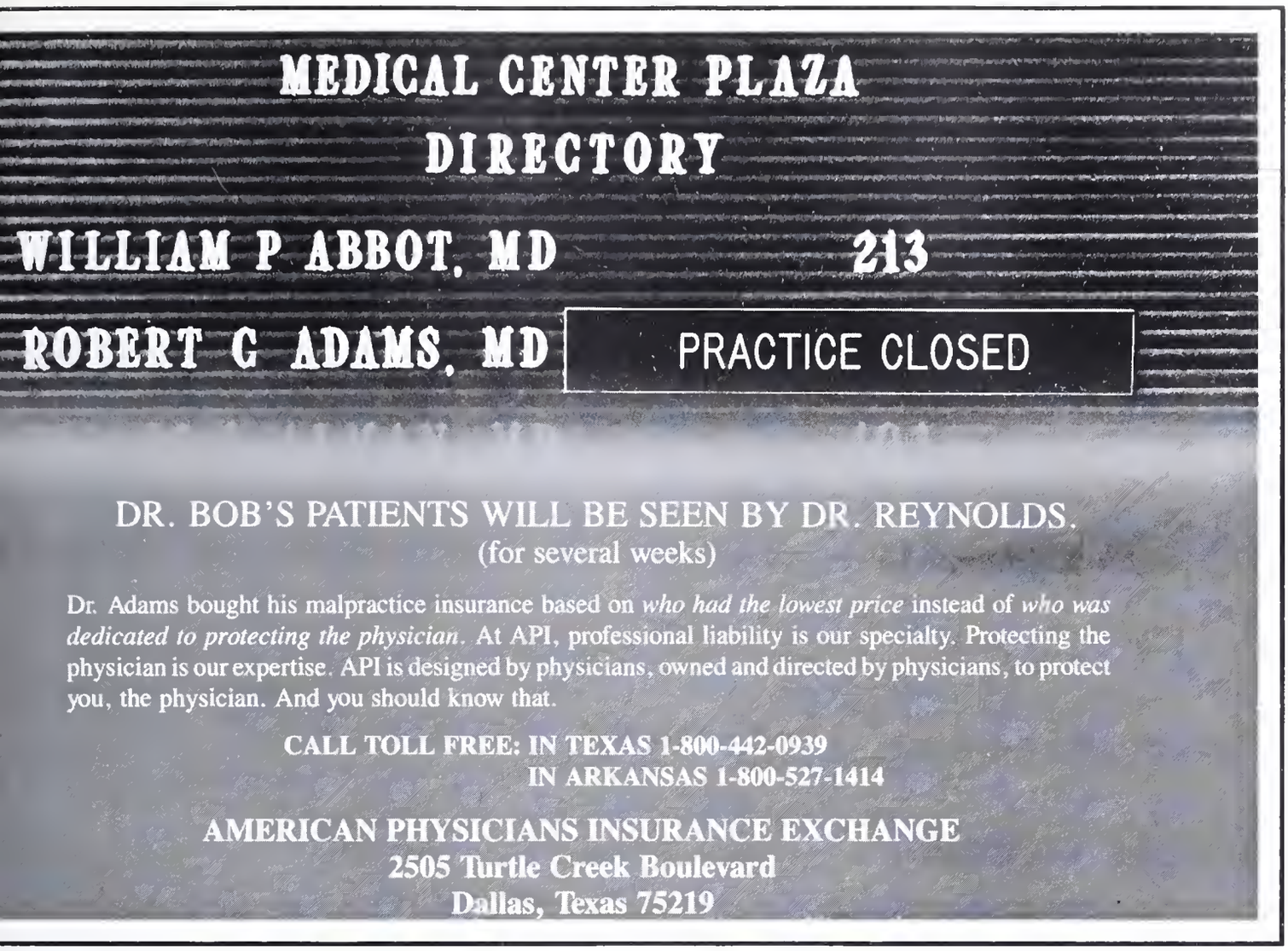
MANILA. Manila, population 2,600, is located 75 miles northwest of Memphis, Tennessee, and 175 miles northeast of Little Rock. Opportunities exist for general practice, family practice, and internal medicine. The community has a 32 bed primary care hospital. A substantial first year salary is offered as well as guaranteed office space at no charge for one year and necessary office personnel at no cost for the first six months. Reasonable moving expenses will be paid. Recreational facilities are available and the area is especially noted for excellent hunting. The economy of the area is based on agriculture and several small industries.

OSCEOLA. Osceola has a population of 9,000 and a trade area population of approximately 40,000. Opportunities exist for physicians in the fields of family practice, orthopaedic surgery, and urology. An excellent incentive package is offered. No investment is required. Guaranteed income is provided.

There are currently nine physicians practicing full-time in Osceola, and an additional five courtesy staff members. The community has a relatively new 82 bed general hospital. Osceola is located on Interstate 55, less than an hours drive from Memphis, Tennessee. The area has excellent hunting and fishing. The economy is based on agriculture and small business.

MENA. Mena, with a population of 5,200 and a county population of approximately 17,000, is located in the hills of western Arkansas 80 miles south of Fort Smith and 77 miles from Hot Springs. Opportunities exist in general surgery, internal medicine, obstetrics, orthopaedic surgery, pediatrics, urology, and family practice. There is a new 57 bed, all private rooms, accredited general hospital and two nursing homes with a total bed capacity of 174. The mountainous area around Mena offers unlimited recreational opportunities. The economy is based on forest products, the poultry industry, and manufacturing companies.

For additional information, contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.



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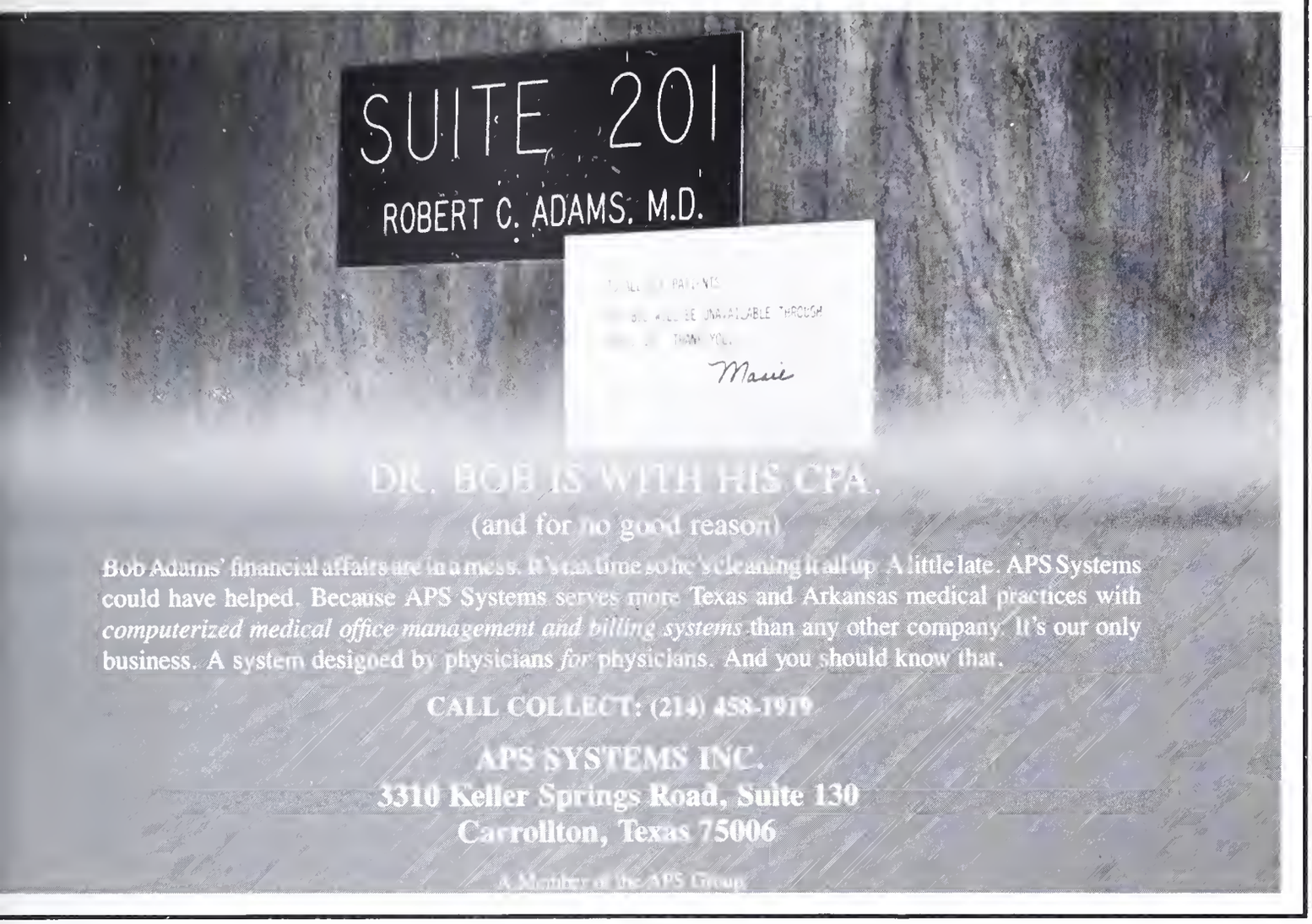
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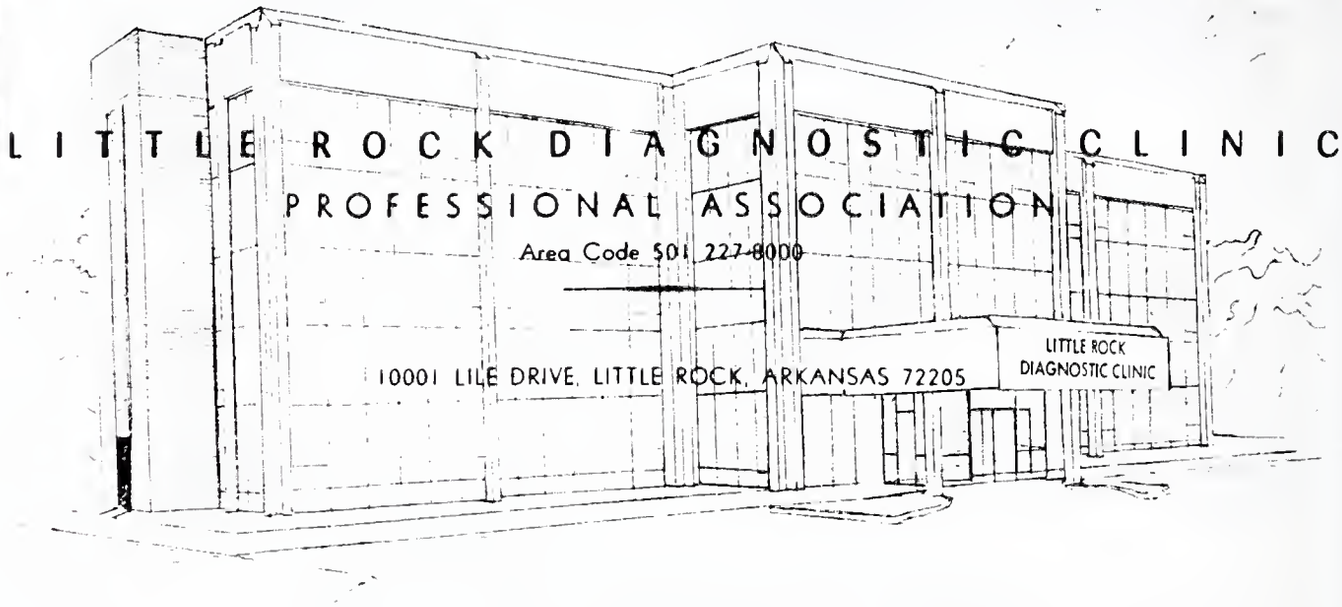
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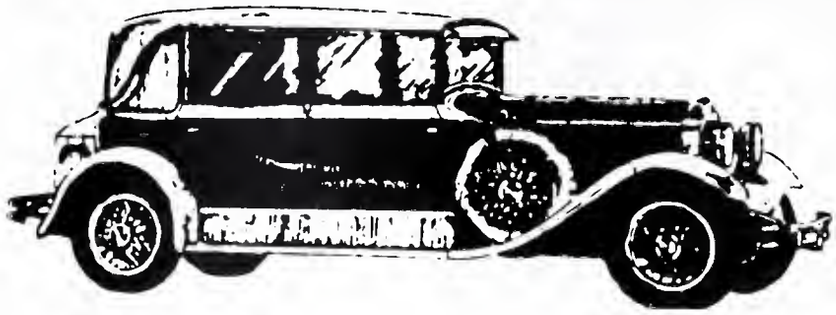
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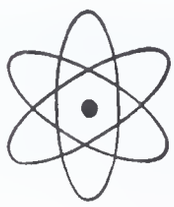
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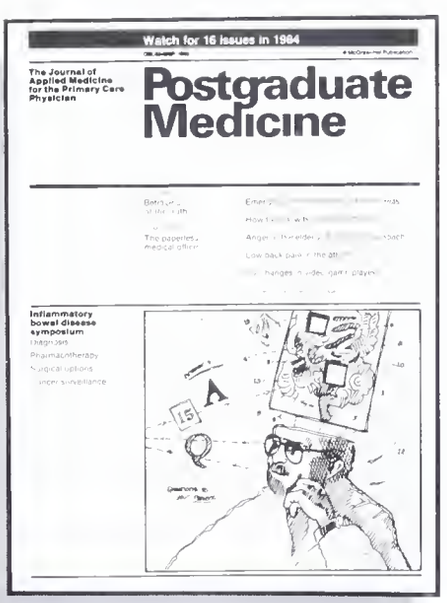
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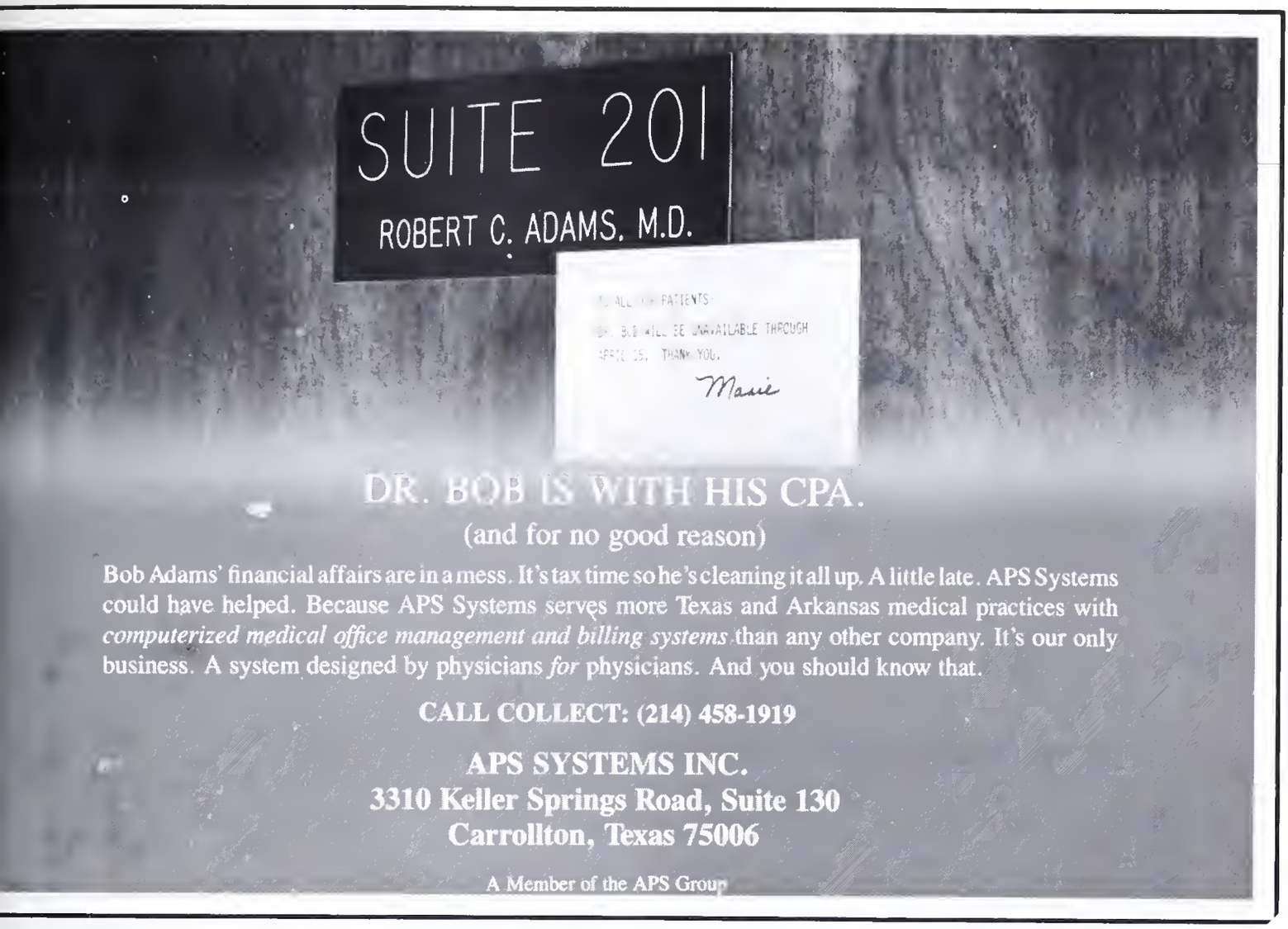
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There are currently 12 physicians practicing in the county: 8 family physicians, 1 radiologist, 2 ophthalmologists, and a psychiatrist. The community has a 49 bed acute care hospital. The hospital emergency room is staffed from 8:00 a.m. Friday to 8:00 p.m. Sunday. There are also two nursing homes in the area.

HOT SPRINGS VILLAGE. Hot Springs Village has a population of 4,000 and is located 70 miles southwest of Little Rock. The community is situated in 22,000 acres of pine and hardwood forest in the foothills of the Ouachita Mountains.

Opportunities exist in family practice or internal medicine. The community currently has one internist and three part-time general practitioners. The Village has a new medical laboratory operated by St. Joseph's Regional Health Center. There is one dentist in the Village. Many Hot Springs Village residents are retired; however, around 25 percent of the population are raising families, and 250 children are bused to school a few miles away. The City of Hot Springs, a prime vacation center, is 15 miles away and has three fully accredited and equipped hospitals: St. Joseph's Regional Health Center with 317 beds; Ouachita Memorial Hospital with 105 beds; and the Levi Arthritis Hospital.

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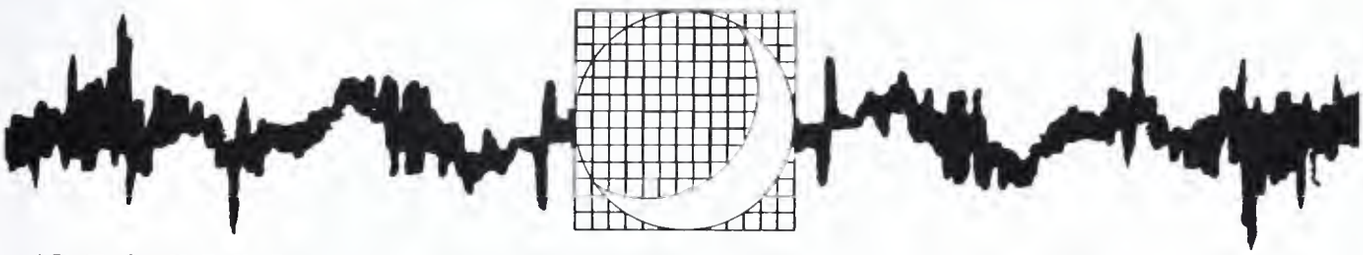
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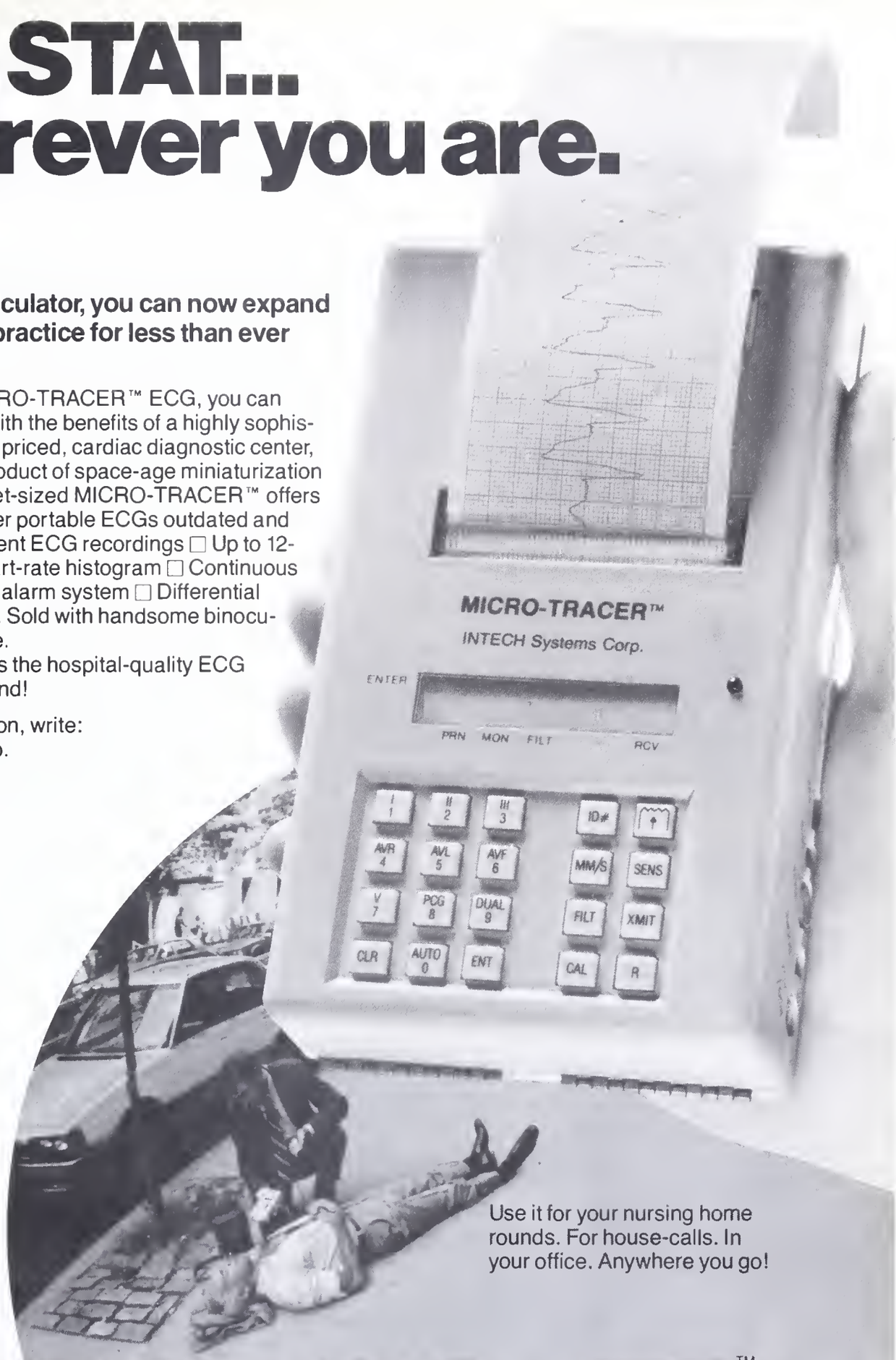
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CLARENDON. Clarendon, the county seat of Monroe County, is located in east central Arkansas along the banks of the White River. It is 75 miles west of Little Rock and 90 miles east of Memphis. The population of Clarendon is 2,500 with a trade area population of approximately 8,000.

An opportunity exists for a family or general practice physician to join the Mid-Delta Rural Health Clinic, which occupies a new 5,000 square foot medical and dental facility, fully equipped to provide an excellent working atmosphere. Adequate administrative and medical support staff are provided. There is no hospital in Clarendon; however, there are two hospitals in the area. They are: the Delta Medical Center in Brinkley, 18 miles to the north, and Stuttgart Memorial Hospital, 22 miles to the southwest. At the present time, there is only one physician practicing in Clarendon. The primary industry in the area is agriculture. There are several small industries in the area.

CORNING. Corning is a community in northeast Arkansas with a population of approximately 4,000 and a trade area population of 20,000. The community is actively recruiting physicians in the fields of family practice, general practice, and internal medicine.

Financial arrangements can be tailored to the needs of the individual physician.
The community has a 40 bed general hospital constructed in 1978 and currently managed by Baptist Memorial Hospital in Memphis, Tennessee.

Corning has a modern elementary and new junior high school. There are many opportunities for higher education in the area. Arkansas State University is the second largest university in the State and is located in Jonesboro. Three junior colleges are in commuting distance.

WALNUT RIDGE/HOXIE. The community has a population of 8,100 and a trade area population of approximately 15,000. The community is located in northeast Arkansas, approximately 23 miles northwest of Jonesboro, home of Arkansas State University. Opportunities exist in orthopaedic surgery, radiology, emergency care, obstetrics, gynecology, pediatrics, and family practice. The community currently has five family practitioners, one general surgeon, and an internist. Lawrence Memorial Hospital is a fully JCAH accredited, 48 bed hospital, recently renovated, with an adjacent 104 bed long term care facility.

For additional information contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

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Warnings: Peptic ulceration and GI bleeding, sometimes severe, have been reported. Ulceration, perforation and bleeding may end fatally. An association has not been established. Use *Motrin* Tablets under close supervision in patients with a history of upper gastrointestinal tract disease, after consulting ADVERSE REACTIONS. In patients with active peptic ulcer and active rheumatoid arthritis, try nonulcerogenic drugs, such as gold. If *Motrin* Tablets are used, observe the patient closely for signs of ulcer perforation or GI bleeding.

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Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue *Motrin* Tablets and the patient should have an ophthalmologic examination, including central visual fields and color vision testing.

Fluid retention and edema have been associated with *Motrin* Tablets; use with caution in patients with a history of cardiac decompensation or hypertension. In patients with renal impairment, reduced dosage may be necessary. Prospective studies of *Motrin* Tablets safety in patients with chronic renal failure have not been done.

Motrin Tablets can inhibit **platelet aggregation** and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and on anticoagulant therapy.

Patients should report signs or symptoms of **gastrointestinal ulceration** or bleeding, skin rash, weight gain, or edema.

Patients on prolonged **corticosteroid therapy** should have therapy tapered slowly when *Motrin* Tablets are added.

The antipyretic, anti-inflammatory activity of *Motrin* Tablets may mask inflammation and fever.

As with other nonsteroidal anti-inflammatory drugs, borderline elevations of liver tests may occur in up to 15% of patients. These abnormalities may progress, may remain essentially unchanged, or may be transient with continued therapy. Meaningful elevations of SGPT or SGOT (AST) occurred in controlled clinical trials in less than 1% of patients. Severe hepatic reactions, including jaundice and cases of fatal hepatitis, have been reported with ibuprofen as with other nonsteroidal anti-inflammatory drugs. If liver disease develops or if systemic manifestations occur (e.g. eosinophilia, rash, etc.), *Motrin* should be discontinued.

Drug interactions. *Aspirin:* used concomitantly may decrease *Motrin* blood levels.

Coumarin: bleeding has been reported in patients taking *Motrin* and coumarin.

Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy or by nursing mothers.

Adverse Reactions: The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal of which one or more occurred in 4% to 16% of the patients.

Incidence Greater than 1% (but less than 3%)—Probable Causal Relationship

Gastrointestinal: Nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness,* headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite, **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation; see PRECAUTIONS).

Incidence less than 1%—Probable Causal Relationship**

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia, **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with pre-existing significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria; **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence less than 1%—Causal Relationship Unknown**

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmias (sinus tachycardia, sinus bradycardia), **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under *"Probable Causal Relationship (PCR)"* if there has been one positive rechallenge or if three or more cases occur which might be causally related. Reactions are classified under *"Causal Relationship Unknown"* if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary.

Caution: Federal law prohibits dispensing without prescription. MED B-7-S

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Upjohn The Upjohn Company
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J-4791 August, 1984



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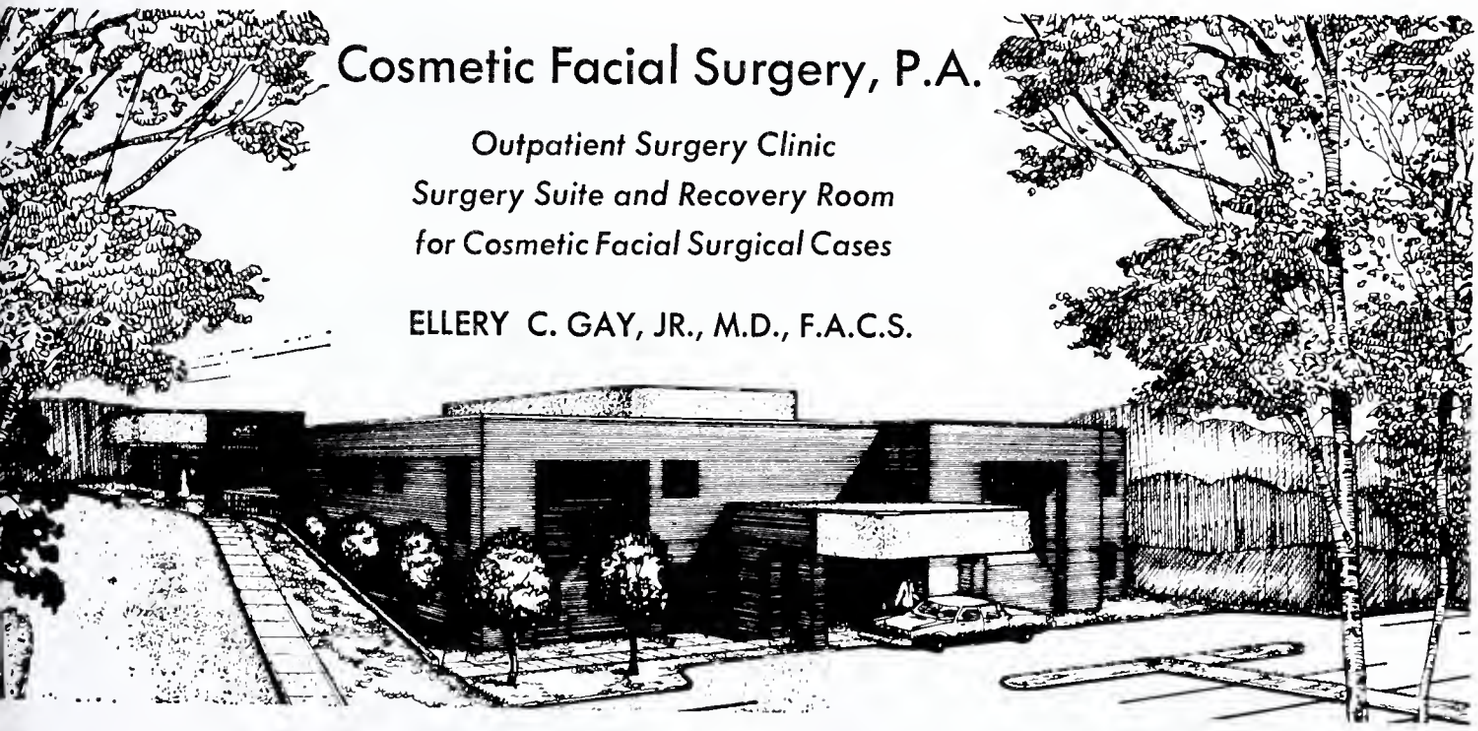
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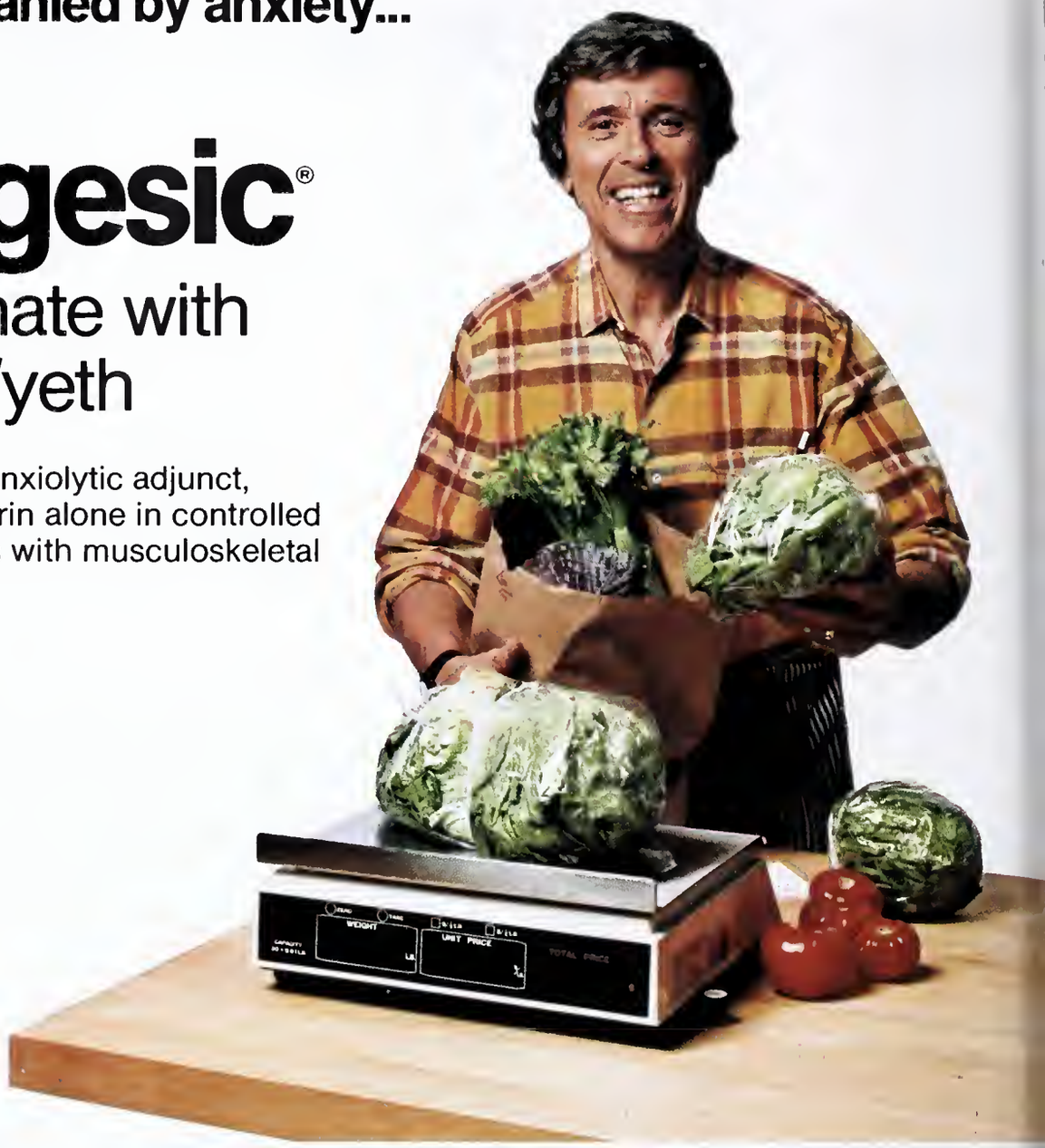


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Each tablet contains 200 mg meprobamate and 325 mg aspirin

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CONTRAINDICATIONS:
ASPIRIN: Allergic or idiosyncratic reactions to aspirin or related compounds.

MEPROBAMATE: Acute intermittent porphyria, allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromal.

WARNINGS:
ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE: DRUG DEPENDENCE: Physical and psychological dependence, and abuse have occurred. Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, anorexia, or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation, symptoms usually cease within next 12- to 48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic® (meprobamate with aspirin) is not recommended for patients 12 years of age and under.

PRECAUTIONS:
ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.

MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS:
ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.

GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSAGE AND ADMINISTRATION:
Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSAGE:
Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 grams meprobamate and survival with as much as 40 grams.

BLOOD LEVELS:
0.5-2.0 mg percent represents usual blood-level range of meprobamate after therapeutic doses. The level may occasionally be as high as 3.0 mg percent.

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected.

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration. Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

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Evolution of Bronchial Sleeve Resection for Carcinoma of the Lung With Case Report

Norris L. Newton, M.S. IV, and Raymond C. Read, M.D., Ph.D.*

INTRODUCTION

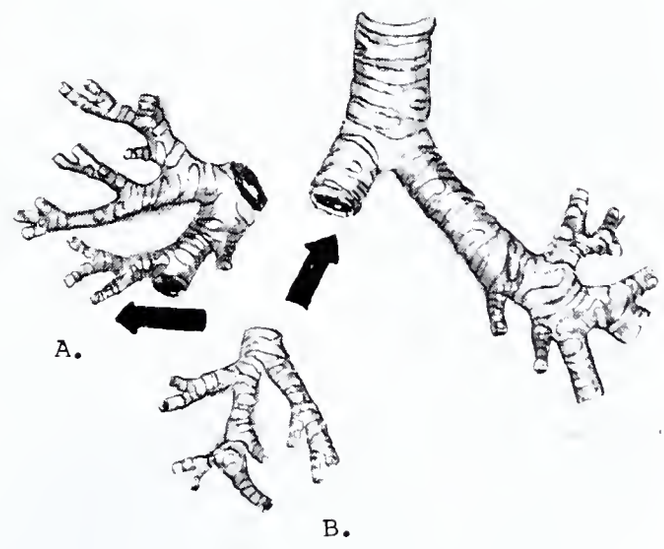
Lobectomy and pneumonectomy were successfully applied to the management of tumors beginning in the 1930's. However, long term survival after lobectomy was sometimes limited by local tumor extension, whereas pneumonectomy too frequently left the patient with inadequate pulmonary reserve. Minimal but adequate tumor resection with preservation of functional respiratory capacity became the goal. Price Thomas, in 1947, performed the first sleeve resection (Fig. 1) for bronchial adenoma in a Royal Air Force Cadet.[11] The objective was to avoid pneumonectomy when involvement of the bronchus intermedius was the only site of tumor extension from the right upper lobe. Allison undertook the first successful sleeve resection for carcinoma of the lung in 1952. This operation was used since the patient had marginal pulmonary function and could not have tolerated pneumonectomy. Paulson and Shaw introduced sleeve lobectomy to the United States in 1955 and applied the term "bronchoplastic procedure."[10] They reported on successful outcomes in 16 patients with various conditions, both benign and malignant. In 1960, Jones reported the first long-term data in 98 sleeve lobectomies performed for carcinoma.[6] The cases were selected and survival equaled that of pneumonectomy. Subsequently, Bennett, Martini, and Weisel have reported large series of patients who have undergone sleeve lobectomy procedures.[2,8,13] Lowe *et al.* has reported that sleeve lobectomy is ideal for benign bronchial tumors and tumors of low grade malignant potential such as adenoma.[7] However, the major advantage offered by this procedure is the extension of operability and subsequent chance for long-term survival in those who could not otherwise tolerate a conventional bi-lobectomy or pneumonectomy for cancer. A recent case at the Veterans Administration Medical Center is illustrative.

CASE REPORT

Mr. B., a 62-year-old white male smoker, was admitted for hydrocele. X-ray studies revealed a right upper lobe lesion. Bronchoscopy with bronchial washing and brushing was carried out for cytology. Pulmonary function testing was done to quantify respiratory status and reserve. Pulmonary CT was done for tumor staging. The patient was also found to have coronary artery disease with angina pectoris.

Salient features of the case included moderate obstructive disease with an FEVI sec of 1.53L., bronchial washings positive for squamous cell carcinoma, and CT confirmation of a mass lesion obstructing the right upper bronchus. The mediastinal lymph nodes were small, the largest 1.2

Figure 1:



A. Right Upper and Middle Lobe

B. Right Lower Lobe

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cm, and mediastinal lymphatic spread of cancer was considered unlikely.

Repeat bronchoscopy carried out just prior to thoracotomy revealed the tumor to extend into the bronchus intermedius for a distince of 4 mm. The trachea and right mainstem bronchus appeared free of tumor. The lung was explored via posteriolateral thoracotomy with excision of the fifth rib. There was no evidence of metastatic disease or pleural effusion. Atelectasis of the right upper lobe was present. The right main-stem bronchus was mobilized down to its bifurcation into the middle and lower lobe bronchi. The right main stem bronchus was divided at the level of the carina and the bronchus intermedius was also divided. The distal bronchus intermedius was then anastomosed end-to-end to the proximal right mainstem bronchus with 4-0 Ethibond sutures. The middle lobe displayed atelectasis and inflated poorly and was subsequently removed. In concert with Weisel's recommendation to prevent bronchovascular fistula, a pleural based flap was raised and sewn across the anastomosis. The lower lobe was noted to fill the lung cavity following reinflation.

Histopathology revealed an exophytic mass obstructing the lumen of the right upper lobe bronchus with excellent margins (Fig. 2). Sections were read as differentiated bronchogenic squamous cell carcinoma. Lymph nodes, bronchial and mediastinal, showed only granuloma being negative for tumor.

Postoperatively an air leak required several days to heal; however, the patient's condition was stable. He was discharged two weeks postoperatively in good condition without respiratory distress. Six month evaluation revealed Mr. B. to be clinically free of carcinoma, comfortable and without dyspnea.

DISCUSSION

A 20 year analysis of the results of sleeve resection of primary bronchogenic carcinoma was reported by Bennett and Smith in 1980.[2] In 80 resections undertaken prior to 1977, a 5 year survival rate of 34 percent with an operative mortality of 7.5 percent was reported. Local recurrence was the main cause of death. Second malignancies developed in 6 of 27 patients who survived 5 or more years. Survival percentages were compared on the basis of nodal involvement.



Figure 2.
Exophytic Mass obstructing Right Upper Lobe Bronchus.

Eighteen of 40 patients (45 percent) with negative nodes survived 5 years in contrast to 9 of 29 patients (31 percent) with nodal metastasis. Patients with positive mediastinal nodes were not resected.

Jensik[4] reported on the survival of patients with more advanced bronchogenic carcinoma involving the carina and trachea.[5] Thirty-four patients underwent simultaneous resection of the right lung and carina with reimplantation of the left main stem bronchus to the trachea. Twenty-eight patients were given preoperative irradiation in this group with tumor sterilization noted in 6 of those treated. In this series, the 5 year survival rate was 13.3 percent and the 10-year survival rate was 8.8 percent.

Weisel, in 1979, compared the results of 70 cases undergoing sleeve lobectomy for non-oat cell carcinoma of the lung with 70 similar cases undergoing pneumonectomy.[13] He pointed out that many questions remain unanswered regarding comparable staging, comparable survivability, and pulmonary function. He stated, however, that results indicated when complete tumor resection is possible, sleeve lobectomy patients had a reduced perioperative complication rate but equivalent long-term survival to that of pneumonectomy while preserving pulmonary parenchyma, which permitted an improvement in postoperative pulmonary performance. Survival was numerically slightly better for pneumonectomy patients (42 percent) as compared to sleeve lobectomy (32 percent) at 5 years. The difference was not considered significant for the sample size. Ten year survival was almost identical for the 2 groups (18 and 15 percent).

SUMMARY

It has been generally agreed that sleeve lobectomy is preferable to pneumonectomy for benign tumors. However, sleeve lobectomy is now being used more often in bronchogenic carcinoma.

A case report is detailed and the evolution of sleeve resection of the bronchus in the management of tumors is reviewed. This procedure preserves lung and is therefore particularly useful in patients who have limited pulmonary reserve.

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A Practical Approach To Pituitary Testing

Larry D. Stonesifer, M.D.*

The hormonal evaluation in patients with suspected or known pituitary disease may at times be a confusing problem for the practicing physician. Clinical presentation of patients with pituitary disease usually represents either hormonal excess or deficiency, and it is the burden of the physician to document such abnormalities in order to undertake appropriate therapeutic intervention. Unfortunately, random blood or urine measurements are often insufficient to establish disease activity. Provocative, stimulatory or suppressive tests which either interrupt the interplay of the pituitary hormones and their target endocrine organs or influence the hypothalamic-pituitary axis have been developed. With these tests deficient or excessive production of pituitary hormones not readily apparent may be exposed.

Several advances in endocrinology have made the diagnosis of pituitary disease simpler. Even when dynamic testing is indicated, the evaluation of patients with pituitary disease can be relatively straightforward. First of all, the widespread use of radioimmunoassay (RIA) for most pituitary hormones and target organ hormones allows one to measure blood levels routinely. With the increasing use of radioimmunoassay for serum hormones, 24-hour urine collections which are often collected erroneously or mishandled by ancillary personnel have assumed a lesser importance, especially as screening tests of pituitary functions. Secondly, hypothalamic releasing factors have become available in synthetic form for clinical use. Thyrotrophin releasing hormone (TRH) is now available. Gonadotropin releasing hormone (GnRH or LRH), which has been used in Europe and for research purposes in this country, when widely available may be clinically useful. Thirdly, relatively new pharmacological agents such as clomiphene, bromocriptine and metaclopramide are now available and may be diagnostically useful in selected patients. Finally, improved computerized axial tomography has greatly facilitated localization of lesions involving the pituitary and/or hypothalamus.

The purpose of this review is to incorporate the recent advances noted above into appropriate clinical tools useful in the diagnosis of pituitary disease. Numerous screening tests have been developed. With planning on the physician's part, a complete pituitary evaluation can often be accomplished in 24-48 hours. If abnormalities are discovered, they may then be pursued by longer, more traditional evaluations. The evaluation of each pituitary hormone will be described below.

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Prolactin

Most pituitary tumors secrete prolactin and are important causes of amenorrhea-galactorrhea in females and impotence in males. Single prolactin determinations are useful in detecting prolactinomas. With prolactin elevation greater than 200 ng/dl, a prolactinoma is usually present[1] and suppressive testing is not usually necessary. When the CT scan is equivocal for pituitary adenoma, a prolactinoma may be difficult to distinguish from idiopathic hyperprolactinemia. In this case, testing with TRH, chlorpromazine or metaclopramide may be he helpful.[2]

Control of prolactin secretion is mainly inhibitory. Prolactin is stimulated by TRH and stress; thus, prolactin may be measured following TRH or during an insulin tolerance test (ITT) which is discussed below. Provocative testing is rarely necessary in the evaluation of patients with prolactin deficient states. The most common prolactin deficient state, Sheehan's syndrome, is readily apparent clinically when a patient complains of inability to lactate following the birth of a child. Prolactin levels are usually low in this disease and do not require stimulation for a diagnosis.

Growth Hormone

With expanding intracellular lesions, growth hormone (GH) deficiency may occur before other hormone deficiencies. Clinical expression of this deficiency is rare, however, and provocative testing is needed to expose a GH deficiency. A random GH is of little use since it will be low in most normal subjects. Therefore, provocative stimuli are needed. Any number of stimuli may be used for GH testing. These include stress (usually insulin induced hypoglycemia), sleep, L-dopa, exercise or arginine. The ITT is especially useful because deficiencies in GH as well as ACTH and prolactin can be demonstrated with one procedure. The patient is fasted and, on the morning of the test, .1 U/kg body weight of regular insulin is injected IV push. Blood sugar, GH, cortisol

and, rarely, prolactin are obtained every 30 minutes for 2 hours. To achieve adequate stress, a blood sugar less than 40-50 mg percent associated with mild symptoms should occur. A resulting GH of greater than 7 ng/ml and a serum cortisol of greater than 20 ng/dl exclude deficiencies of GH and ACTH. The tests should not be done in the elderly, patients with underlying heart disease, epilepsy or where hypoglycemia seizures may occur. Otherwise, with physician supervision and the knowledge that ACTH-deficient patients may be very insulin-sensitive, the test may be performed safely and provides much information. The ability of the patient to undergo a stressful procedure, e.g., surgery, is best evaluated with the insulin tolerance test. If the ITT is contraindicated, a serum GH following 500 mg L-dopa orally and 30 minutes of exercise will allow one to determine the patient's GH status.

Bromocriptine, which has been used for the treatment of prolactinomas and acromegaly, may also be useful in pituitary diagnostic evaluations. Although bromocriptine may paradoxically suppress GH in patients with acromegaly, it stimulates GH in normal subjects and has thus been useful in assessing children evaluated for short stature.[3]

As in the evaluation of GH deficiency, a single random determination of GH in evaluating patients for GH excess is of limited usefulness. In evaluation of patients with suspected GH excess, suppressive maneuvers are used to determine if normal GH dynamics are present. Traditionally GH is measured postprandially or following 100 gm of glucose injested orally. Normal subjects suppress well below 5 ng/ml. Since TRH testing (see below) stimulates GH in 80 percent of acromegalics but not in normal subjects,[4] TRH testing may be useful in the diagnosis of equivocal cases of GH excess and in evaluating postoperatively the completeness of tumor removal in acromegaly.

Somatomedin C is a polypeptide which is produced in the liver under the influence of GH and mediates the growth-producing effects of GH in skeletal tissue. Somatomedin C may be used as a screening test in both states of GH deficiency (dwarfism and short stature) and GH excess (acromegaly). Somatomedin C levels are especially useful since they are unaffected by time of day and/or oral intake as are GH determinations. Although somatomedin C levels may aid in the diagnosis of these conditions, the usefulness of a somatomedin C determination in following patients treated for acromegaly has been questioned.[5]

Gonadotropins

Like GH, the gonadotropins, leutenizing hormone (LH) and follicle stimulating hormone (FSH), often are affected early when an expanding pituitary lesion is present. In males the simplest measurement of the function of these hormones is a serum testosterone. A normal serum testosterone usually excludes a deficiency of LH and FSH. Likewise, normal menstrual periods for practical purposes excludes gonadotropin deficiency in females. In women with amenorrhea, withdrawal bleeding in response to Provera (10 mg orally for 10 days) or a normal vaginal mucosa index or a normal serum estradiol suggests amenorrhea is not caused by gonadotropin deficiency.

If target hormones are low, then an RIA of LH and FSH should be obtained. These hormones are secreted episodically and one determination may therefore give misleading results. Clinically this problem may be obviated by collection of three plasma samples at 20 minute intervals and pooling the plasma for one determination. Low gonadotropins combined with low testosterone or estradiol levels suggest pituitary dysfunction. However, very low values of LH and FSH may occur in normal individuals. Thus, provocative tests for gonadotropin deficiency have been devised. Clomiphene 50 mg twice a day for 10 days should cause a twofold increase in gonadotropins and testosterone in men who have borderline low testosterone, LH and/or FSH.

LRH has been synthesized and should become available for clinical use. Theoretically, LRH injections should separate pituitary from hypothalamic gonadotropin deficiencies. However, this has not been universally true. Both in normal subjects and in patients with anorexia nervosa, delayed puberty and pituitary tumors, LRH testing may give a variety of results, thus limiting the clinical usefulness of this test.[6]

Thyroid Stimulating Hormone

The most useful screening test for evaluation of thyroid stimulating hormone (TSH) is a T4 by RIA. Occasionally, abnormalities in thyroid binding globulin (TGB) may elevate or decrease T4 (RIA), but this problem is overcome by obtaining a T3 resin uptake and calculated free thyroxin

index. A normal T4 and TSH essentially excludes pituitary hypothyroidism. If T4 is low and TSH is also low, pituitary-hypothalamic disease may be present. Clinically important hypothyroidism from pituitary hypothalamic disease is rare unless GH, LH and FSH deficiencies are also present.

In equivocal cases of thyroid disease, the TRH test may be useful. A two-fold increase in the serum TSH or a TSH elevation of greater than 20 mU/ml at 30 minutes after IV injection of 500 mcg of TRH is a normal response to TRH. Theoretically, no response should occur in secondary (pituitary) hypothyroidism, and a blunted, delayed response should occur with tertiary (hypothalamic) hypothyroidism. Unfortunately, this is not always the case and TRH testing is only occasionally useful to separate these possibilities.[7]

A common clinical problem is low to low normal T4 (RIA) and very low T3 (RIA), with a normal TSH thus simulating TSH deficiency. This usually occurs in patients with chronic or acute systemic illnesses such as malignancy, sepsis, chronic lung disease or starvation, and has been designated "euthyroid sick syndrome." These patients appear to have abnormal peripheral metabolism of T4. Normally about 40 percent of secreted T4 is peripherally converted to T3 by monodeiodination of the outer ring of T4. Similarly, 60 percent of T4 is monodeiodinated to reverse T3 (cleavage of iodine from the inner ring of T4). In the illnesses associated with the euthyroid sick syndrome as well as in the presence of propylthiouracil, propranolol and high dose steroids, the conversion to T3 is inhibited, thus allowing more reverse T3 production.[8] Thus, the diagnosis of the euthyroid sick syndrome can be confirmed by an elevated reverse T3 (RIA) which is available clinically. A normal TRH test or the absence of overt pituitary disease is also useful in interpreting low thyroid functions in nonthyroidal illnesses.

Adrenocorticotropic Hormone

As mentioned above, the ITT is very useful in demonstrating adrenocorticotropic hormone reserve (ACTH response to stress). If cortisol is measured, however, one must be certain that primary adrenal insufficiency is not present. An a.m. cortisol of greater than 20 ng/dl, or a cortisol greater than 20 ng/dl 1-2 hours after an injection of 250 mcg of cosyntropin (amino acids 1-24 of ACTH), satisfactorily rules out primary adrenal insufficiency. Then tests for secondary adrenal insufficiency such as an insulin tolerance test may be carried out.

If the insulin tolerance test is contraindicated, metyrapone testing is useful. The overnight metyrapone test is a simple, inexpensive, easy to perform evaluation that does not require urine collections or hospitalization. It may be performed as the initial screening test for ACTH reserve.[9] Metyrapone blocks the conversion of 11-desoxycortisol to cortisol and if pituitary-hypothalamic function is normal, ACTH should increase in the presence of metyrapone. When 30 mcg/kg of metyrapone is given at 11 p.m. (usually with milk and crackers to avoid nausea), a serum cortisol and 11-desoxycortisol can be obtained at 8:00 a.m. the next day. A cortisol of less than 5 ng/ml documents adequate blockade of the 11-hydroxylase enzyme has been achieved; a serum 11-desoxycortisol should be greater than 10 if ACTH reserve is normal. If adequate inhibition of cortisol synthesis is not achieved, then standard metyrapone testing will need to be undertaken.

One should never administer metyrapone or perform insulin tolerance tests until primary adrenal insufficiency is excluded. Likewise, with frankly low baseline cortisol values, especially in a patient in whom pituitary tumor is clearly present, metyrapone may cause acute adrenal insufficiency and should be avoided.

Primary pituitary excess of ACTH is usually associated with Cushing's disease. Although only 50 percent of patients with pituitary Cushing's have a clearly elevated ACTH,[10] the diagnosis of this disease will be briefly considered. Three useful screening tests for Cushing's syndrome are available. Failure of an 8:00 a.m. ortisol to suppress to less than 5 ng/ml after 1 mg of dexamethasone at 11:00 p.m. the previous evening suggests Cushing's syndrome and needs to be pursued. False positive suppression may result from depression, alcoholism, obesity and dilantin administration. The other two useful screening tests for Cushing's syndrome include an elevated urinary free cortisol in a 24 hour specimen and p.m. ortisol of greater than 15 ng/ml.

Vasopressin

Posterior pituitary function is often spared with mass lesions of the pituitary. However, following pituitary surgery or with hypothalamic disease, diabetes insipidus is a consideration along with anterior pituitary hormone deficiency. The sim-

plest test to rule out diabetes insipidus is a first voided urine for a specific gravity and/or osmolality. A specific gravity of greater than 1.020 or urine osmolality of greater than 800 mOgm/kg usually exclude significant diabetes insipidus. In suspected cases of diabetes insipidus, water deprivation may cautiously be undertaken until the urine osmolality plateaus. If the urine is not maximally concentrated at this point 5 U of aqueous vasopressin IM or subcutaneously will result in maximum concentration 1 hour later and confirm the diagnosis of central diabetes insipidus. Radioimmunoassays for antidiuretic hormone are available presently, but their clinical usefulness in the evaluation of hypopituitarism remains to be seen.

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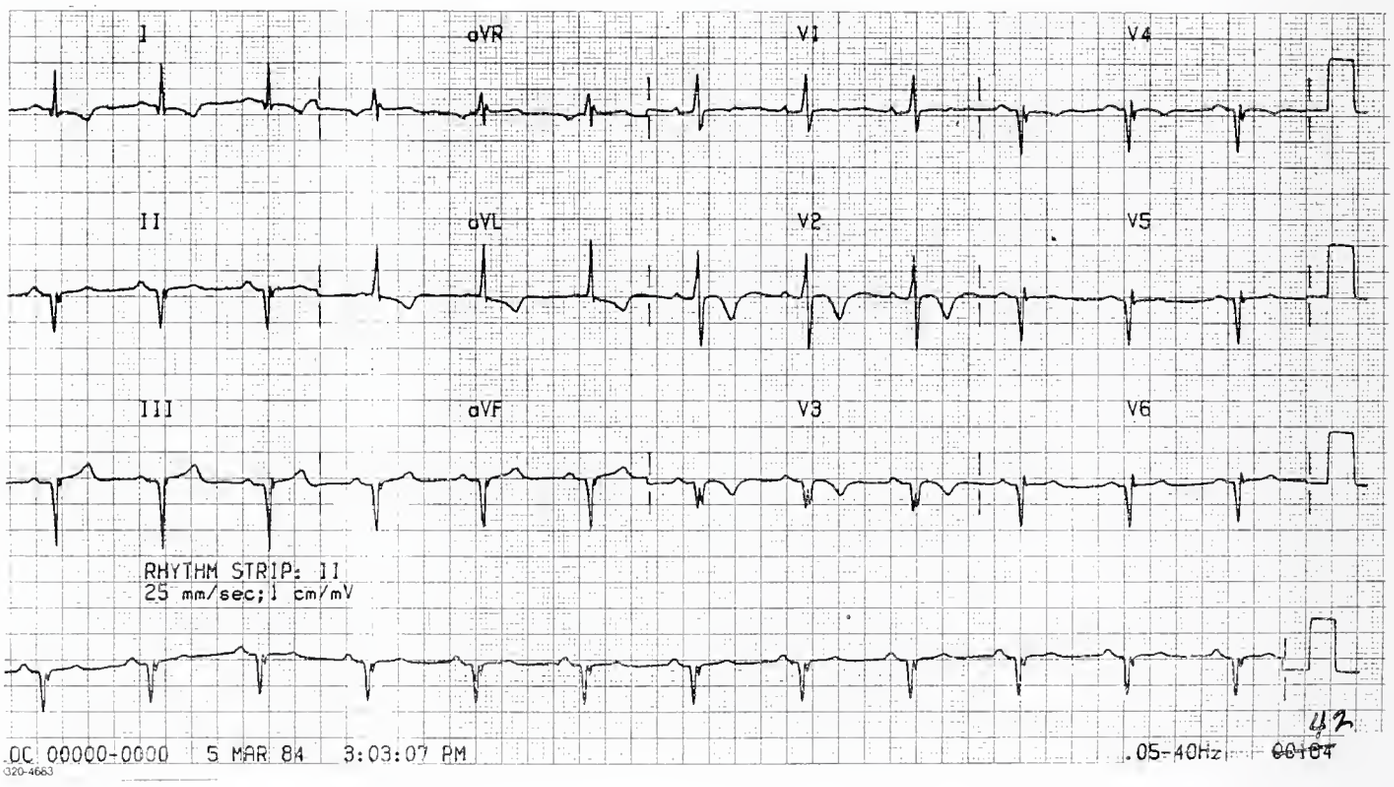
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 324)

HISTORY: B. B. is a 48-year-old woman who has presented to the emergency section because of chest pain. She has a long history of tobacco use. Additionally, the patient indicates that she has had several past hospitalizations for "heart attacks", the last one being six weeks ago. Her physical examination revealed hypotension, crackles in her lungs, a pericardial friction rub, and an S_3 gallop. Considering pulmonary artery catheterization, echocardiography, or temporary pacemaker placement, which procedure do you think would be of least diagnostic and therapeutic import to the patient?



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Office Orthopaedics

Exercises for Spinal Deformity

Charles C. Schock, M.D.*

Although all are not agreed on their exact role in the treatment of spinal deformity, exercises remain a significant part of the history and present practice of the treatment of these conditions.

The effect of exercises on posture and potential deformity of the axial skeleton would seem to fall into two categories. First, since loads on the components of the axial skeleton are a composite of weight, inertia and the combined musculotendinous forces upon them, it would appear that the hyperthrophy of muscle groups that tend to reduce undesirable loading would be beneficial. Loads on the growth centers of the axial skeleton during adolescence play a significant role in the evolution of progressive spinal deformity. Secondly, the ligamentous constraints of the axial skeleton including particularly the joint capsule and disc annulus are subject to deformation by application of stress over a period of time. An illustration of this phenomenon is a weight hung on an earlobe occupying a slightly lower position on each successive day. This is of particular significance at the apex of large scoliotic curves and in the development of lumbar lordosis with disc space narrowing. The reverse of this phenomenon is also true in that lack of stretching of collagenous tissue may lead to contracture.

The general goal, then, of spinal exercises is to hypertrophy muscle groups which are anatomical-

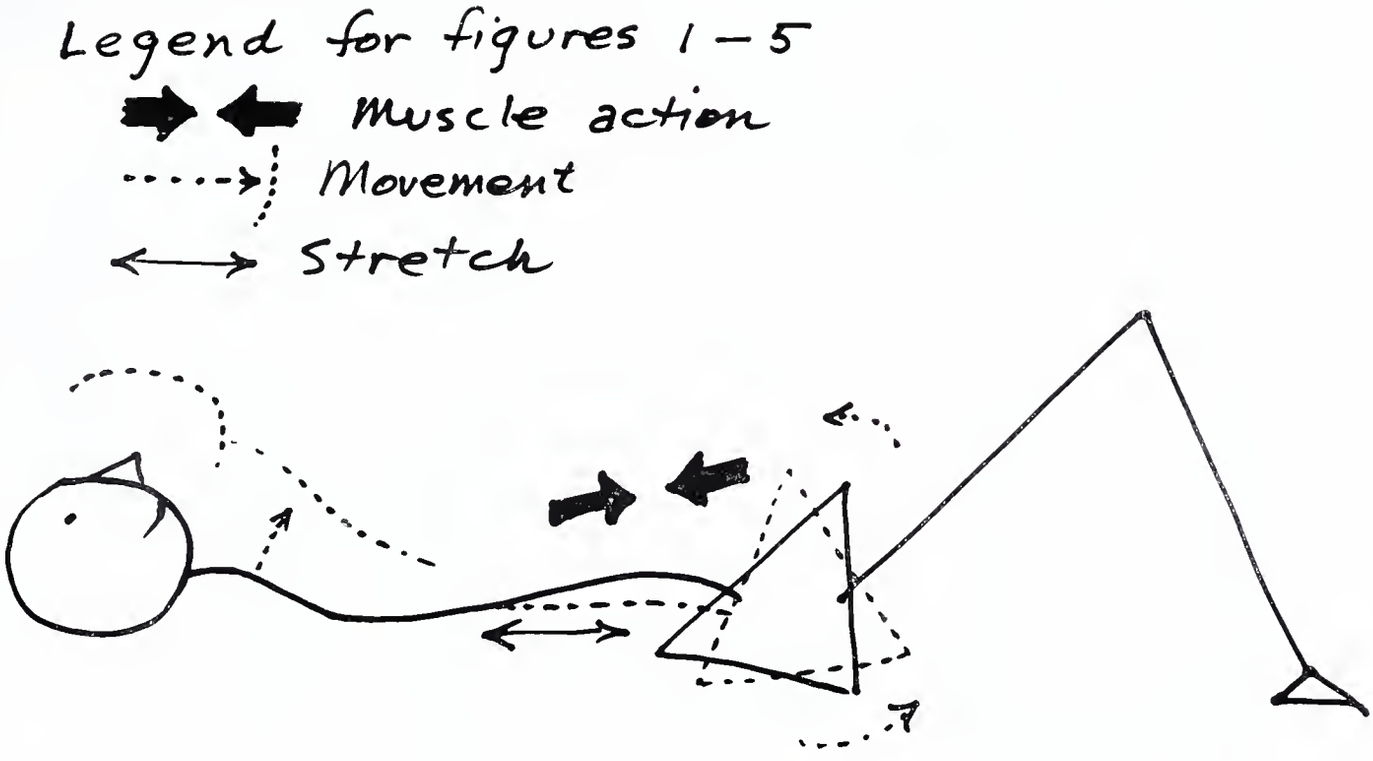


Figure 1.

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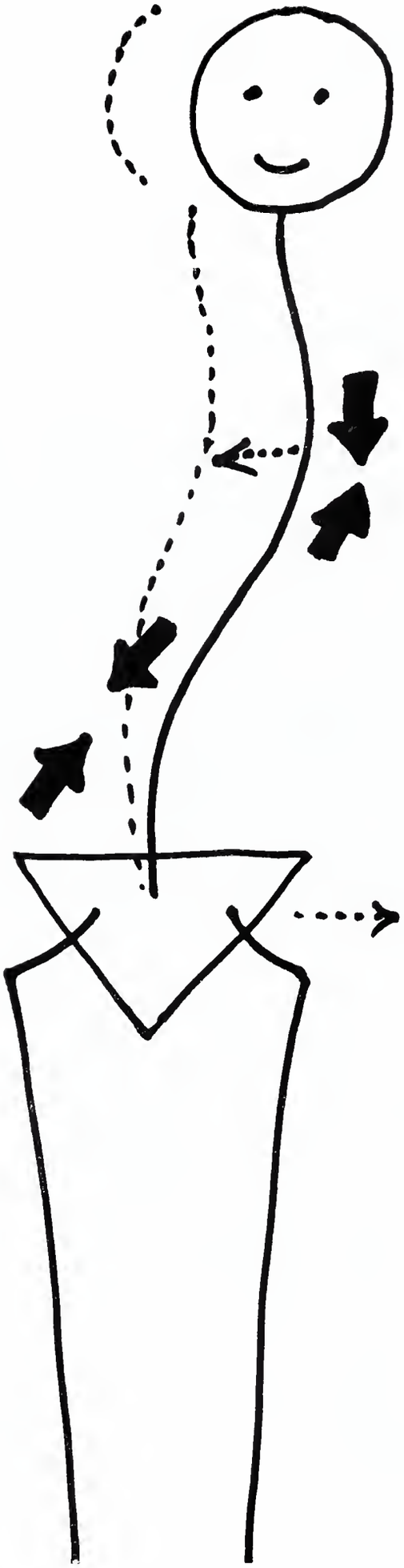


Figure 2.

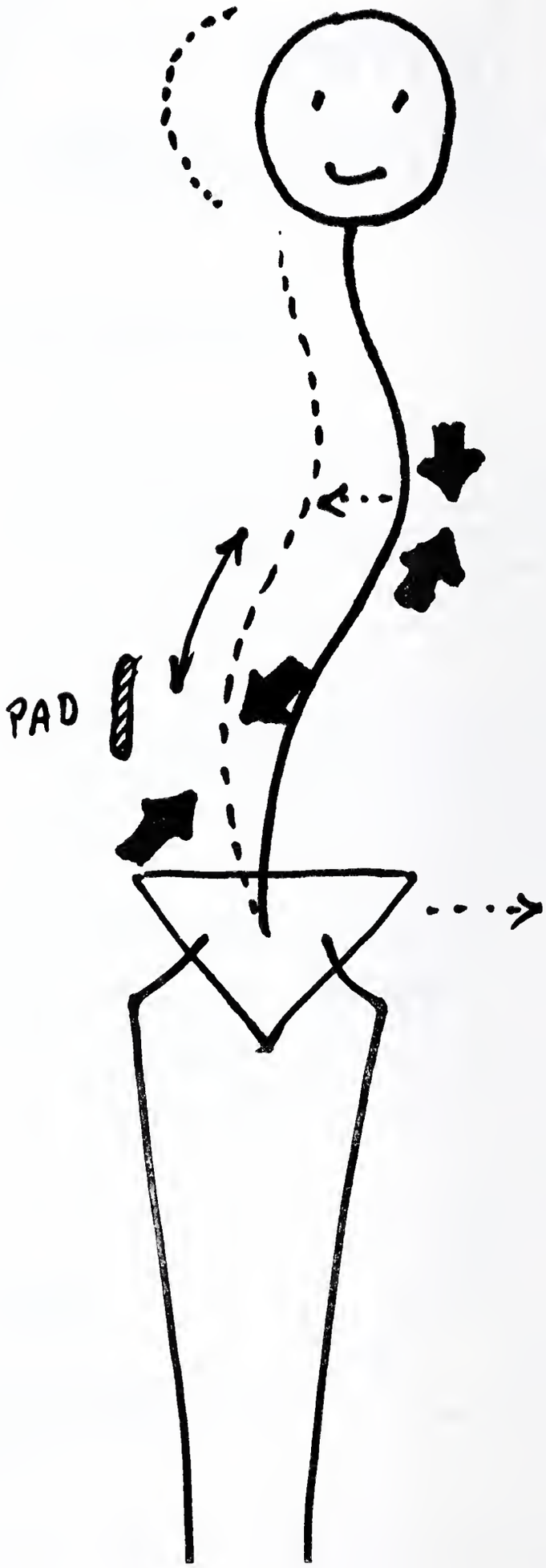


Figure 3.

ly situated to reduce undesirable positions and stresses on the axial skeleton and to stretch collagenous tissue that is anatomically situated to prevent improvement of position.

The solid base of any spinal exercise program is the reduction of lumbar lordosis. When spinal exercises are used in conjunction with a "Milwaukee" or other brace, a position of pelvic flexion must be built into the construction of the orthosis. This so called pelvic "tilt" exercise is superimposed upon the preset brace positioning, in which the lower abdominal muscles are contracted so as to rotate the public symphysis upward and to move the sacrum in a caudal direction. Patients frequently initially confuse this with "sucking in the belly" which actually involves expanding the thorax with a relaxed diaphragm, displacing the abdominal contents upward. It is helpful in teaching pelvic tilt in the upright position to place the patient against a wall and to observe that when the tilt is done properly that the hollow of the back disappears and the lumbar spine assumes a position flat against the wall. When this exercise is done in a recumbent position one may point out that the lumbar spine must be pressed down onto the examining table and the sacrum slightly elevated. This maneuver is carried out with the hips in 45 degrees of flexion to eliminate the pull of the psoas muscle which is actually situated so as to increase the tendency to lumbar lordosis and therefore it is not a useful muscle in which to encourage hypertrophy. A recumbent pelvic tilt in the hip and knee flexed position can then be combined with a "roll up" exercise which further encourages hypertrophy of the anterior abdominal musculature (Figure 1). When combined with extreme passive hip and pelvic flexion as in Williams exercises in the adult, meant to primarily combat degenerative changes, muscular hypertrophy is combined with stretching of the collagenous elements situated posterior to the lumbar spine in order to allow a more satisfactory position from the standpoint of spinal biomechanics.

The lateral shift is a second component of exercises for spinal deformity. It is particularly important when the spine is decompensated, that is, when the upper portion of the spine is positioned out of the line of gravity to the sacral midline. The shift is performed away from the direction of decompensation over a fixed and tilted pelvis. This is particularly important for decompensated thoracolumbar and lumbar curves where the apex of the curvature is at a point of intrinsic weakness of the spine, the upper lumbar spine of the thoracolumbar junction, where the thorax gives no mechanical support. It is at this location where painful arthritic changes may

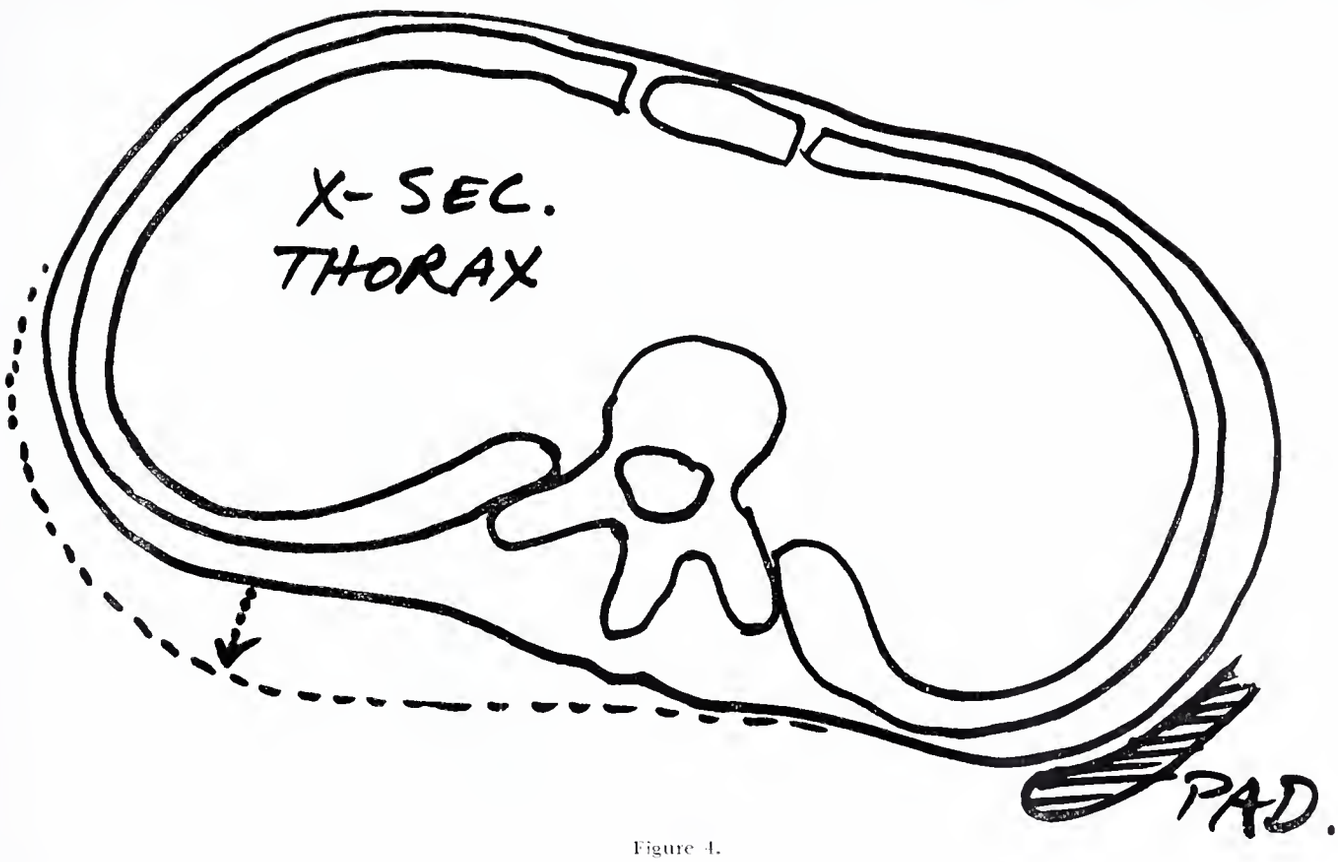


Figure 4.

occur later in life. The lateral shift may be taught by asking the patient to assume a position of pelvic flexion and then to move the pelvis in the direction of spinal decompensation, therefore as a result causing a relative shift of the trunk over the pelvis in the direction of correction (Figure 2). The muscles activated by this exercise will, when hypertrophied, make a more powerful contribution to the patient's postural equilibrium.

For thoracic curves treated in a brace, a trunk shift away from the direction of decompensation will tend to cause a secondary curve to develop in the lumbar spine creating a compensated double curve which is easier to treat and more satisfactory in the long run than a single decompensated curve (Figure 3). When a secondary lumbar curve develops and a patient is being treated in a brace, lumbar pressure can be used to limit the extent of the development of this secondary curve and in essence cause the thoracic spine to be shifted over a fixed lumbosacral complex.

For a thoracic curve in idiopathic scoliosis, a decrease in thoracic kyphosis (hypokyphosis) is the rule. Rotation of the spine gives the erroneous impression of kyphosis which is in reality the rib hump of the thoracic deformity. When a thoracic pad is placed posterolaterally over this rib hump the patient by deep breathing and "rounding" of the thoracic spine (displacing it posteriorly during the deep breathing maneuver) can tend to reduce

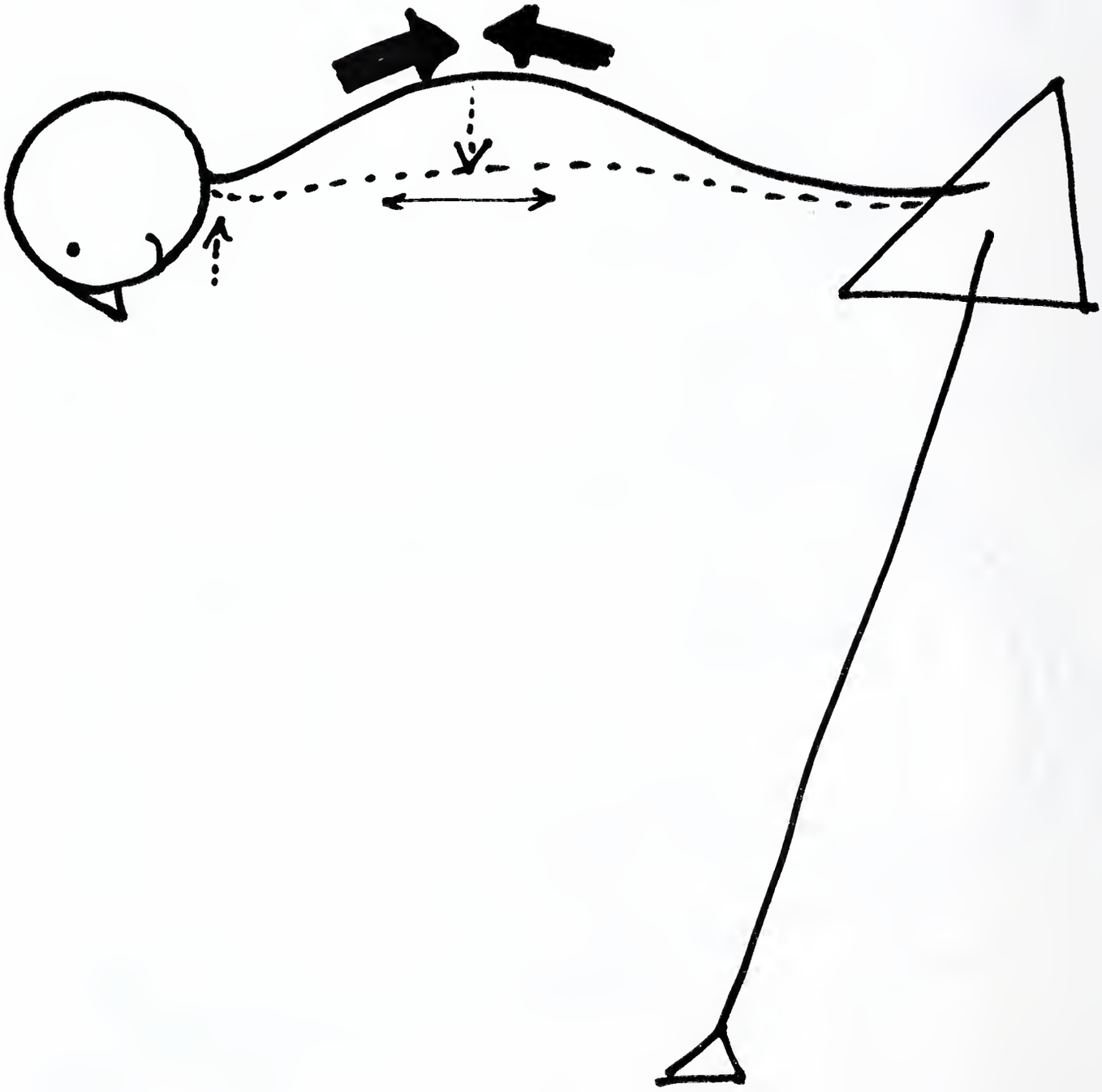


Figure 5.

hypokyphosis (Figure 4). This exercise is only applicable during bracing.

For true thoracic kyphosis which may or may not be associated with Scheuermann's disease of the vertebral bodies, the opposite maneuver is carried out. This consists of bending the thoracic spine into a more lordotic position either in a prone position or in a standing position with the hips flexed at ninety degrees (Figure 5). The posterior extensor muscles are thereby hypertrophied and anterior structures are placed on stretch.

Standing "tall" is an additional maneuver which tends to place the musculoskeletal structures of the spine into a more well aligned position. This is particularly effective when a Milwaukee Brace is used giving the patient a visible goal of elevating the head up above the neck ring and thereby escaping some discomfort.

Exercise scheduling is of course highly individualized. Definite times for recumbent exercises at least twice a day should be set. Standing exercises may be judiciously spaced "several" times per day, notably (and preferably surreptitiously) during "stand and wait" situations. A sense of humor will aid patient and practitioner in working out the details.

The evaluation of the effectiveness of any exercise program remains difficult since exact degree of compliance and the intensity of exercise effort is difficult to document. Those practitioners who spend time explaining and encouraging an exercise program and in obtaining periodic follow-up information will indicate that a percentage of their patients are benefited. Others may remain more skeptical of the value of exercise. We believe that it is appropriate to invest some effort in explaining and encouraging appropriate exercise programs in patients so that at least those patients who are temperamentally able to incorporate and to follow through with an exercise program can be given a chance to benefit.



PUBLIC HEALTH AT A GLANCE

Control of Hepatitis A Associated With A Day-Care Center

Jai P. Narain, M.D., M.P.H., Barbara J. Henderson, R.N., and J. P. Lofgren, M.D.*

ABSTRACT

During an outbreak of hepatitis A in Jacksonville, Arkansas, May-September, 1981, 13 of the identified cases were associated with one day-care center. Investigation of the outbreak revealed an association between secondary cases among household contacts and the presence of a $\leq$ 2-year-old child attending the center. The attack rate in households with a child $\leq$ 2 years of age was 14.3%, and 1.9% in households with only older children ($p = 0.004$). Initial control measures, which included informing family members about the outbreak and recommending prophylactic treatment with immune globulin (IG) by their physician or the local health department, were unsuccessful. The outbreak was successfully controlled only when the health department set up a clinic in the day-care center and administered IG to the children attending the day-care center, their household contacts, and the day-care center personnel.

INTRODUCTION

Spread of hepatitis A within day-care centers and to the community by children attending day-care centers has recently been recognized.[1,2] Although clinical illness in young children is usually mild or inapparent, these children are potential sources of infection for others.[3] Transmission of hepatitis A virus (HAV) in day-care centers, therefore, may go unrecognized until infection occurs in older persons (household contacts or day care center employees) who are more likely to experience clinical illness.

In the summer of 1981, an outbreak of hepatitis A in a Jacksonville, Arkansas, day-care center provided an opportunity to study the transmission of HAV and examine how best to control the spread of HAV from day-care centers.

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BACKGROUND

Jacksonville, which has a population of 19,800 persons, is situated in Pulaski County, Arkansas. There are four licensed day-care centers in the area. The day-care center we investigated is a facility that has an average daily attendance of 110 children ages 6 weeks to 5 years; operates 12 hours a day, 5 days a week; and also accepts drop-ins. From May-September, 211 children attended the center for various periods; 74 were $<$ 2 years old and 137 were $\geq$ 2 years old. Six persons were employed by the day-care center.

On May 27, 1981, the Arkansas Department of Health (ADH) received a report from a physician of a case of hepatitis A in a 6-year-old female who developed jaundice on May 17. Investigation revealed that she along with her 18-month-old sibling had attended a day-care center. On June 8, a 24-year-old female hospitalized with hepatitis A in a different county was reported to the health department. This patient had been employed at the day-care center where she had taken care of the sibling of the index case.

METHODS

The ADH routinely receives reports of hepatitis A cases from physicians and other health-care providers. On receipt of each report, the patient's physician is contacted and queried about the results of any serologic tests performed. The individual patient is interviewed about symptoms and possible sources of infection, including association with a day-care center.

If a case is associated with a day-care center, the center is visited and information is obtained on possible additional cases in day-care attendees, their parents and siblings, and day-care employees. Information is also obtained on the number of children in each group, the degree of mixing among children, and general hygiene and food handling practices at the facility. The center operator is asked to notify ADH should any other

cases occur. When hepatitis A in two or more households occurring within a one month period is discovered to be associated with a day-care center and the day-care center appears to be the only likely source of infection, the center is assumed to be the focus of an outbreak and necessary control measures are initiated.

When the day-care center in Jacksonville was discovered to be the only source common for the two reported cases, a possible outbreak was assumed to be present at the center. Information was then collected on illness in other members from each household, their demographic characteristics such as age, sex and other day-care facilities attended by the children.

Serologic testing for hepatitis B surface antigen (HBsAG), antibody to HBsAG (anti-HBs), antibody to HAV (anti-HAV), and specific immunoglobulin M (anti-HAVIgM) was generally performed by private commercial laboratories.

A confirmed case of hepatitis during the outbreak required diagnosis by a physician and/or detection of anti-HAV IgM antibodies in the serum. A day-care center associated case was defined as a patient with hepatitis A who during the 6 weeks prior to the onset of illness attended a day-care center, was a day-care employee, or a household contact of a child attending a day-care center.

RESULTS

Outbreak

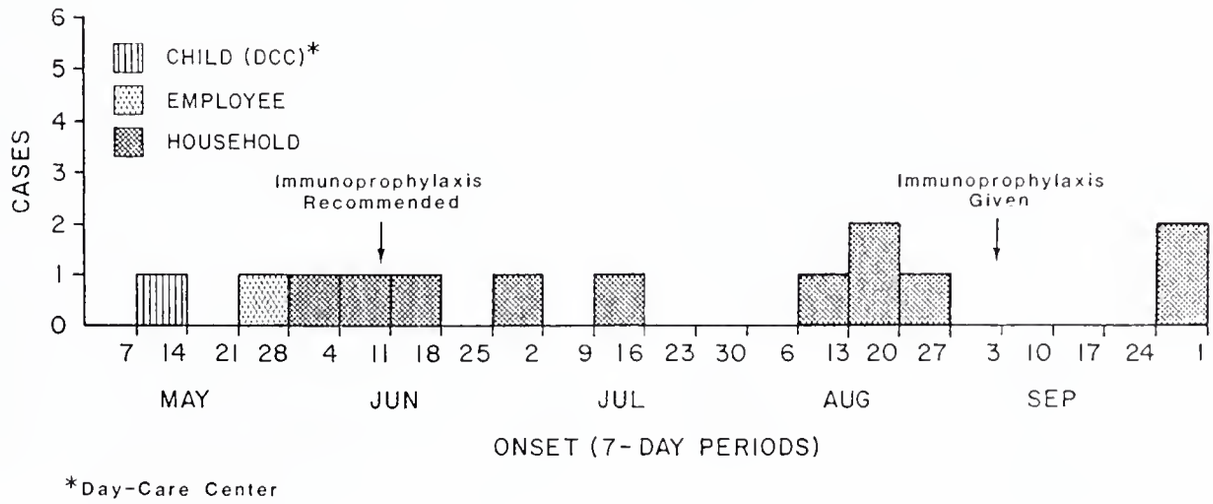
In the period May-September, 1981, a total of 13 patients with hepatitis A reported from Jacksonville met the case-definition of day-care center associated hepatitis A (Figure 1). Of the reported cases, 11 (85%) were in parents of children attending the day-care center; of the other two, one was a center employee and one in a sibling of a day-care attendee. The index case was a 6-year-old child who had developed jaundice on May 15, 1981. In late May, her father also began having symptoms and was diagnosed as having hepatitis. The family of the child who was the index case had an 18-month-old sibling who also attended the same day-care center. This child, however, remained asymptomatic. The occurrence of illness over a five-month period suggests that the hepatitis was spread by person-to-person transmission in the day-care center rather than from a common source.

Seven (54%) of the day care associated cases were males (Table 1). Most cases occurred among young adults, with a median age of 27 years (range 6-35). All but one of the patients developed jaundice during their illness, three of whom were hospitalized. Except for index case, no other child attending the day-care center developed clinically confirmed hepatitis during the outbreak, although a few had reportedly developed flu-like symptoms.

Adequate specimens for serologic testing were available for 8 of the 13 patients; the specimens from five of the patients were tested for anti-HAVIgM and all five were positive. Of the specimens from the remaining 3 patients, 2 were positive for anti-HAVIgG, and all were negative for HBsAg.

Overall, 175 households had children in the day-care center during the outbreak period. In 12

Fig. 1 CASES OF DAY-CARE-ASSOCIATED HEPATITIS A, JACKSONVILLE, ARKANSAS, MAY-SEPTEMBER, 1981



*Day-Care Center

(6.9%) of these households, a case of hepatitis A developed during this period (Table 2). A case of hepatitis A was present in 10 (14.3%) of the 70 households that had a child ≤ 2 years old and in 2 (1.9%) of the 105 households without a child of similar age (Fisher's exact test, two tailed, p = 0.004). The risk of hepatitis A was seven times greater in a household with a child ≤ 2 years old who attended the day-care center than if all children attending the center were > 2 years old.

Control Measures

Upon discovery of two cases of hepatitis A associated with a day-care center, the ADH on June 9, 1981, notified day-care center authorities of a possible hepatitis A outbreak at the center. It was suggested that parents of children attending the involved day-care center be informed of the situation and recommended that all children attending the center, as well as household contacts of children under 3 years of age receive immune globulin (IG). Later it was confirmed that very few had received IG.

TABLE 1
Age and Sex Distribution of Hepatitis A Cases Associated With a Day-Care Center, Jacksonville, Arkansas, May-September, 1981

AGE (YEARS)	HEPATITIS A PATIENTS	
	NUMBER	%
≤ 14	1	7.7
15-24	3	23.1
25-34	8	61.5
≥ 35	1	7.7
SEX:		
Male	7	54
Female	6	46
TOTAL	13	100

TABLE 2
Hepatitis A Among Households By Age of a Child Attending the Day-Care Center, Jacksonville, Arkansas, May-September, 1981

AGE OF CHILD	HEPATITIS A IN HOUSEHOLD			
	YES	NO	TOTAL	ATTACK RATE %
At least one ≤ 2 years	10	60	70	14.3
All > 2 years	2	103	105	1.9
TOTAL	12	163	175	6.9

Fisher's Exact, 2 tailed, p = 0.004

Hepatitis A transmission, however, continued at the day-care center. Nine of the 12 reported sepatitis cases from Jacksonville for the period of June-August were in parents of children attending the day-care center. In early September, ADH informed parents of children attending the involved center of a continuing HAV transmission at the center and urged them to receive prophylactic IG. A clinic was held in the center on September 3, 1981, and IG was administered to more than 300 persons, including household members, day-care attending children and staff members. Moreover, IG administration was required before a child could return to the center and for new admissions during the next six weeks after the clinic. The epidemic ceased after administration of IG at the center. Two more cases were reported within 20 days after the clinic was held, which is within the incubation period of hepatitis A. Both persons were assumed to have been infected prior to immunoprophylaxis.

DISCUSSION

Recently, many outbreaks of hepatitis A associated with day-care centers have been described in the medical literature.[4,5] Since day care centers bring together large numbers of susceptible children, an infection can spread not only to other children at the center but to the outside community as well. Infection in young children causes either nonspecific symptoms like that of any viral infection or no symptoms at all; therefore, hepatitis spread among children at the center may go unnoticed.

This outbreak demonstrates the potential for hepatitis A transmission from day-care centers; 65% of all cases reported from Jacksonville during the outbreak period were associated with a single center. Currently, it is not known how or when the infection was originally introduced into the center. The outbreak first became apparent when a young child and an employee of the center became ill. Illness in the child and soon after in her father possibly occurred after the introduction of HAV into the family by her sibling who attended the day-care center. Further spread in the center possibly occurred as a result of close physical contact and poor hygienic practices of children in diapers. In the following 5 months, symptomatic cases of hepatitis A occurred among household contacts, primarily parents, whereas children remained asymptomatic except for a few nonspecific symptoms.

Our findings, like those of many others,[1,6] indicate that young children have a higher risk for spreading hepatitis A, and the risk for the household with children ≤ 2 years old was 7 times greater than the risk for households with only older children. Although we did not take into account the drop-ins and did not restrict our analysis only to the regular day-care center attendees, we believe that this association would still hold.

Factors that contribute to increased virus spread are the non-toilet-trained children and the asymptomatic or mild nature of the illness in small children. The persons who change young children's diapers may not properly wash their hands and subsequently become infected via the fecal-oral route of transmission. The risk of spread from school-age children on the other hand, is considerably less. The recent nationwide upsurge in day-care center associated hepatitis may be a result of the increasing dependence of families on day-care centers for care of infants and young children.

Control of hepatitis A is achieved by passive immunoprophylaxis with human IG which is capable of preventing infection if given before exposure to HAV.[7] When administered within 14 days after exposure, illness may be prevented in 80% of exposed persons.[8] Our experience suggests that in a defined closed population such as a day-care center, control is best achieved by prompt administration of IG to all susceptible persons.

Physicians and health personnel should be aware that hepatitis in the community may originate from a day-care center. Whenever clinical cases are associated with a day-care facility, these should be reported to the health department so that control measures can be instituted in time to prevent further transmission of infection. More importantly, if outbreaks are to be prevented, high standards of hygienic practices, such as proper hand-washing must be constantly maintained at the day-care centers as well as by parents at home.

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Pediatric Update

Recent Advances in the Diagnosis and Management of Tumors of the Central Nervous System in Children

Robert C. Woody, M.D.,* and Mark Wright, M.D.**

Increasingly rapid advances in the diagnosis and management of childhood tumors of the central nervous system have occurred in the last ten years. This article will summarize these recent advances and review the basic clinical aspects of tumors of the central nervous system in children.[1,5]

Currently at Arkansas Children's Hospital the Neuro-Oncology Clinic provides consultative services and assists in the management of Arkansas children with brain tumors. The clinic consists of an oncologist, neurologist, neurosurgeon, and the consultative services of a pediatric endocrinologist, neuroradiologist, and radiation therapist. Physical, occupational, and speech therapy are an integral part of the Neuro-Oncology Clinic at Arkansas Children's Hospital.

Tumors of the central nervous system are the second leading neoplasm in children. Only leukemia is more common. It is not surprising that the suspicion or actual diagnosis of brain tumors in children often is one of the most disconcerting events that can occur to a family. Although the ultimate prognosis of many types of brain and spinal cord tumors in children remains grim, the opportunity for prolonged survival through well-timed surgical procedures, correctly fractionated radiation therapy, and the potential benefits of chemotherapy are of great significance to the practicing physician in Arkansas.

Incidence:

The statistical analysis of series of children with tumors of the central nervous system is highly variable depending on the sources cited. Series reported from statewide neuro-oncology groups such as that now present at Arkansas Children's Hospital are likely to reflect a higher incidence of rarer forms of brain tumors. On the other hand, smaller or less regionalized centers will more likely report greater numbers of the more common tumors. Reflecting this, a series reported in 1977 from the Yale Pediatric Neuro-Oncology Group summarized their thirty-nine year experience at that center. Over this period of time, 488 childhood central nervous system tumors were diagnosed and managed. Of this group 467 were intracranial and 21 were spinal. Of the intracranial tumors 28% were astrocytomas and included cerebellar, cerebral, brainstem, and spinal gliomas. Twenty-five percent were medulloblastomas, nine percent were ependymal tumors such as ependymomas, ependymoblastomas and choroid plexus tumors, nine percent were craniopharyngiomas, and nine percent were glioblastoma multiforme tumors. The median age at the time of diagnosis was six years old and the male to female ratio was 1.3:1.

Differences in Adult Versus Childhood Central Nervous System Tumors

In adults it is difficult to clearly distinguish whether primary or secondary tumors are more common since there is a bias depending on the referring source cited, it is clear in pediatrics that primary central nervous system tumors are far more common than metastatic tumors to the central nervous system. Primary noncentral nervous system tumors in the pediatric age group very uncommonly metastasize to the brain. Acute lymphocytic or monocytic leukemia will involve the central nervous system, however, intraparenchymal mass lesions are uncommon. Instead, invasion of the subdural or subarachnoid space with leukemic infiltrates commonly occur. Osteogenic sarcoma or rhadomyosarcoma occasionally metastasize to the central nervous system. Similarly, primary tumors of the central nervous system in both children and adults very rarely metastasize outside the central nervous system. This is probably due to the relative lack of lymphatic drainage from the brain. Surgical intervention including

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craniectomies in which the blood-brain barrier is disrupted permits exit of tumor cells to the rest of the body. Similarly placement of ventriculoatrial or ventriculoperitoneal shunts for the relief of hydrocephalus permits some tumors such as ependymomas or medulloblastomas to seed elsewhere in the body.

Another major difference between the adult and pediatric population regarding central nervous system tumors is location. Around two-thirds of all tumors in the adult population are supratentorial. In pediatrics, however, between the ages of 2-12 years old, two thirds of all brain tumors are infratentorial. There is a group between the ages of birth and four years old, however, in which a majority of brain tumors are supratentorial. These tumors represent primitive neuroectodermal pathological types and are not commonly seen after four years of age.

Because of the differences in localization of adult and pediatric tumors, the clinical presentations often are different. It is rare for a child to present with seizures as the primary symptom of his brain tumor. In adults, however, the onset of seizures very commonly parallels the first clinical recognition of a primary or metastatic tumor. On the other hand, children very frequently develop hydrocephalus, ataxia, and other brainstem findings since these signs or symptoms originate from posterior fossa pathology.

Types of Brain Tumors Seen in Children

Astrocytomas in general are reported to be the most frequent pathological type of intracranial or intraspinal tumors in children. The most frequent localization of astrocytomas in children is the cerebellum. Frequently the cerebellar tumor will present with upsilateral ataxia. Occasionally the tumor will be midline and will involve single or multiple cysts exerting mass effect and having a central tumor nodule. Because of this mass effect, the fourth ventricle may be occluded leading to the development of hydrocephalus. Unilateral or bilateral sixth nerve paresis presenting as the inability to fully perform ipsilateral lateral gaze is common.

Medulloblastomas also are posterior fossa tumors occurring in the midline resulting from embryonic cellular proliferation. It is more common for males than females to be affected with this type of tumor. Medulloblastomas also frequently cause increased intracranial pressure manifested by hydrocephalus because of fourth ventricular compression. Cranial nerve findings may include abnormalities of the sixth, seventh, eighth, or lower cranial nerves. Truncal ataxia and head titubations are common.

Brainstem gliomas are less frequent than the two types mentioned above. Brainstem gliomas typically present with dense cranial nerve dysfunction, corticospinal tract involvement and the late development of hydrocephalus due to obstruction of the fourth ventricle. Brainstem glioma proliferation frequently occurs in the cranial nerve nuclei of the brainstem, dissecting up and down the brainstem and only later involving compression of the corticospinal tracts with occlusion of the fourth ventricle. These children may present with unilateral sixth nerve paresis, seventh nerve paresis, internuclear ophthalmoplegia from involvement of the medial longitudinal fasciculus, Horner's syndrome, numbness of one side of the face or body, ataxia or unilateral weakness.

Ependymomas result from proliferation of neoplastic cells of the choroid plexus or the ependyma, the lining of the ventricular surface. They may occur in the fourth ventricle, the third ventricle, or the lateral ventricles. These tumors may fungate from the ventricular system and wrap around the brainstem and upper cervical spine. Typically these children present with increased intracranial pressure early and may have ataxia and lower cranial nerve findings in their course.

Supratentorial tumors, although less common in children, will be seen in about one-third of cases. The most frequent supratentorial tumor is craniopharyngioma. Although this tumor may present in adulthood, most cases are confined to the pediatric population. This tumor is typically located above the hypothalamus and optic chiasm, and may present with endocrinologic or visual field disturbances.

Optic gliomas frequently are seen in the pediatric population, in particular in children or adults with neurofibromatosis. Optic gliomas, although a very benign cellular type and of a very slow clinical progression, often have devastating effects on a child. The typical presentation is of unilateral decreased visual acuity, retro-orbital headache, and late increased intracranial pressure from third ventricular obstruction. Ofter a unilateral glioma will spread across the optic chiasm and involve the other optic nerve resulting in

blindness. Not only are children with neurofibromatosis predisposed to optic gliomas, they also have an increased incidence of acoustic neuromas, brainstem gliomas, meningiomas, and other intracranial brain tumors. Although children with neurofibromatosis and associated intracranial complications are rare, it is crucial to recognize that they are highly predisposed to the development of tumors.

Other brain tumor types including neuroectodermal primitive cell types, teratomas, pineal gland tumors, and primary lymphomas are less commonly seen and often very difficult to diagnose neuroradiographically or even pathologically.

Intraspinal tumors in children are uncommon. In the neurofibromatosis patient, however, primary gliomas or menigiomas of the spinal cord may present with developing bowel and bladder complaints or quadriparesis or paraparesis.

The Differential Diagnosis of Brain Tumors in Children

A crucial fact to remember is that the vast majority of headaches in children represent migraine or tension contraction headaches. As mentioned above, it is extremely rare for children with the onset of seizures to have brain tumors as an etiology. On the other hand, the development of posterior fossa signs and symptoms as outlined above including ataxia, cranial nerve findings, or increased intracranial pressure presenting as rapidly increasing head size, projectile vomiting, or dull frontal or occipital headaches, worsened by Valsalva maneuvers, arising in the morning, or manifested by pain during the night, are of definite pathological significance in the pediatric age group.

Migraine headaches in children are frequent. Typically, the child has the onset of throbbing or steady pain either unilaterally or bilaterally lasting for hours to days and interspersed by periods of no pain. Occasionally, but much less frequently than in adults, children will have visual auras. Frequently the parents note pallor, nausea, and a rather sudden disinterest in the environment at the onset of the headache. Often the child will vomit after this and feel somewhat better. Nearly all children prefer to go into a quiet dark room and be left alone. Frequently, upon awakening, these children feel much better. In contrast in brain tumors in children, the headache is more constant, dull, bifrontal or bioccipital and not relieved by rest, but definitely worsened by coughing, straining at the toilet, or bending over.

Pseudotumor cerebri also occurs frequently in children, in particular in adolescent females in which menstrual or other endocrinologic disturbances are present. The ingestion of tetracycline, nitrofurantoin, oral contraceptives, vitamin A, and other prescribed drugs may be associated with pseudotumor cerebri. These children present with chronic headaches, later visual disturbances including focal scotomata, and later sixth nerve paresis. On fundoscopy, clear-cut papilledema occasionally with hemorrhages is seen. A careful clinical evaluation and computerized tomography (CT scan) is required before any diagnosis of pseudotumor cerebri is possible. Lumbar punctures are not only safe in these patients when a careful diagnosis is made, but in fact are therapeutic.

Sinusitis of the ethmoid and frontal sinuses is not unusual in children and is a frequent cause of headache, malaise, and irritability. A careful physical examination including percussion of the sinuses over the frontal and intraorbital areas along with examination of the nose for any purulent discharge, and a history of recurrent allergic or sinus problems is the key to diagnosis. A well done sinus radiographic series and interpretation usually gives a correct diagnosis.

Postviral infectious white matter disease presenting as an encephalomyelitis occasionally occurs with ataxia, cranial nerve findings, peripheral nerve findings, and corticospinal tract abnormalities. Once again a careful history and CT scan investigations are necessary to exclude intracranial or intraspinal tumors.

Clinical Features Which Should Alert the Physicians to the Presence of a Brain Tumor

Although headaches themselves rarely reflect intracranial tumors, the presence of a persistent dull headache worsened by Valsalva maneuvers and occurring with projectile vomiting, in particular at night or upon arising in the morning should always be considered worrisome in children.

The development of any findings consistent with a sixth nerve lesion such as a unilateral or bilateral esotropia without any other known precipitating event such as prematurity or trauma involving the sixth cranial nerve should always

in the pediatric population raise the suspicion of increased intracranial pressure and, therefore, brain tumor. Likewise, complaints from the child of diplopia is of great concern since children with estropias on a developmental basis or from neurologic damage at birth rarely complain of diplopia.

The development of ataxia or any other gait disturbance in a child between two and twelve years of age must be explained, although occasionally drug intoxications including those especially of over-the-counter medications can present with ataxia the presence of abnormal corticospinal tract findings and any oculomotor disturbances must be considered abnormal and must be investigated with computerized tomography. Enlargement of the head at a rate faster than expected and crossing isobars on the head circumference chart is a key physical finding. The presence of split sutures documented by the ability to "rock the sutures" or the presence of a "cracked pot sound" (MacEwen's sign) which is performed by placing your ear on one side of the head and gently tapping the contralateral coronal suture, is an important physical finding which often can lead to the diagnosis of increased intracranial pressure between the ages of two and eight years of age before the sutures begin to fibrose.

Children with the features mentioned above require careful consideration and a thorough neurological physical examination before being treated for other potential disorders.

Neuroradiologic Advances in the Diagnosis and Management of Childhood Central Nervous System Tumors

With the advent of CT in the mid-1970's and the very recent addition of Nuclear Magnetic Resonance (NMR), also referred to as Magnetic Resonance Imaging (MRI) highly accurate and specific neuroradiologic diagnostic tools now can rapidly localize and assist in the management of childhood brain tumors. CT is widely available in Arkansas. MRI will, within the next year, become available in Little Rock and elsewhere in the state. These new imaging techniques have virtually eliminated the need for pneumoencephalography and have lessened the indications and, therefore, the risks of arteriography of the central nervous system. CT provides excellent localization of tumor of the central nervous system and evidence of secondary pathophysiologic events such as peritumor edema and obstructive hydrocephalus. MRI provides more accurate visualization of the posterior fossa which is of obvious importance in the pediatric brain tumor patient. In addition to this, MRI provides a highly accurate imaging technique without radiation exposure. (Gooding)

Advances in Chemotherapy in Childhood Central Nervous System Tumors

The inability to totally remove a tumor from the central nervous system without producing serious neurologic residua frequently limits the role of neurosurgery in childhood brain tumors. In addition to this, the frequent and often severe toxicity of irradiation therapy in the developing nervous system increasingly has lead to more restricted use and more carefully fractionated therapy in children. For these reasons, increasing emphasis has been placed on attempting to find more satisfactory chemotherapeutic modalities and novel ways of delivering agents to the central nervous system in children. The most recent chemotherapeutic modalities have included the use of combination therapy such as nitrogen mustard, vincristine, prednisone, and procarbizine (MOPP), intra-arterial cisplatinum, and radio-sensitizing agents such as diaziquone (AZQ). MOPP which has been frequently used for the treatment of lymphomas has been the subject of investigation recently for recurrent brain tumors in particular medulloblastomas in children. MOPP has been suggested in protocols as adjuvant chemotherapy in older children and primary therapy for children under two years of age with medulloblastoma. The increased toxicity of radiotherapy in the child under two years of age has provided the incentive to attempt to find efficacious chemotherapy for these children. Intra-arterial cisplatinum has been suggested for study purposes in supratentorial malignant gliomas. AZQ which rapidly penetrates the intact central nervous system apparently acts by forming increased numbers of toxic intracellular free radicals. AZQ has been studied in both adults and pediatric patients with central nervous system tumors. (Schold). In addition to this, novel methods of delivery of chemotherapy including the osmotic breakdown of the blood brain barrier by arterial injections of hyperosmotic agents such as mannitol followed by arterial delivery of chemotherapeutic agents in succession to the disrupted blood-brain barrier territory has been suggested as a potential mode of therapy. At this point, the role of chemotherapy remains both

controversial and unproven. Regional neuro-oncology clinics such as the one at Arkansas Children's Hospital hopefully will gather and coordinate children with central nervous system tumors and offer the opportunity for experimental chemotherapy to be investigated and coordinated nationwide.

CNS Effects of Radiation and Chemotherapy

Children with brain and spinal cord tumors who are treated with irradiation and chemotherapy may suffer from significant side effects. Intellectual deterioration, endocrinopathies, leukoencephalopathy, extraneural metastases, and oncogenesis may all complicate the treatment of CNS neoplasia. Irradiation usually causes delayed manifestations which can be divided into "early" and "late delayed effects." Most of these effects are transient and require no medical intervention. Irradiation of the spinal cord can produce an "early delayed effect" characterized by tingling and paresthesias. The symptoms appear within a few weeks to several months after irradiation and usually resolve spontaneously in several weeks. The most common "early delayed effect" from irradiating the cerebrum has been the somnolence syndrome. Drowsiness, anorexia, apathy, and headaches begin six to eight weeks after irradiation and persist for one to two weeks. In 1973, Freeman[2] *et al.*, reported eight of twenty-eight leukemic children developing the somnolence syndrome six weeks after cranial irradiation with complete recovery in all patients three weeks later. The "late delayed effects" of irradiation may occur for months to years after therapy, with a peak incidence at one to three years. It is often referred to as irradiation necrosis and can be difficult to differentiate from recurrent tumor. It often mimics a mass lesion clinically and radiographically and both irradiation and tumors can cause focal neurological signs, dementia, and seizures. Both may be associated with increased uptake on brain scan and variable enhancement on CT. Irradiation necrosis often leads to rapidly progressive neurological deterioration and death.

Several chemotherapy protocols for brain tumor have been recently devised, several of which have been mentioned previously in this review. Potentially serious sequelae from these antineoplastic agents have been recognized.

Nitrogen mustard rarely causes neurotoxicity except when given intrarterially for regional perfusion or when given in high doses. Tinnitus, coma, and seizures may develop immediately and lead rapidly to death. The neurotoxic effects of *vincristine* and *vinblastine* have been well recognized since these drugs were introduced in 1962. The incidence of neurologic side effects of both drugs are common. They include paresthesias, loss of deep tendon reflexes, moderate to severe weakness, cranial nerve paresis, and syndrome of inappropriate antidiuretic hormone secretion (SIADH). SIADH usually occurs within the first week of therapy and the electrolyte and water abnormalities generally correct within one to two weeks. Vinblastine usually causes less neurotoxicity than vincristine, but vinblastine toxicity is rarely dose limited. Vincristine related toxicity is almost always with doses greater than 2mgs and is cumulative.

Procarbazine is a methylhydrazine derivative and has some monoamine oxidase inhibiting activity. The usual dose-limiting toxicity is hematopoietic, but a significant number of patients will exhibit neurologic effects as well. The drug diffuses across the blood-brain barrier easily. Neurologic sequelae include depression, alterations of consciousness, peripheral neuropathies, and characteristic monaomine oxidase inhibitor effects. The neurotoxic effects have a rapid onset and rapid resolution after discontinuation of therapy.

Cisplatinum has produced ototoxicity in up to thirty percent of patients. Tinnitus has also been reported with cisplatinum. A peripheral neuropathy of the "stocking and glove" type has been reported which also includes twitching, tetany, and rarely a positive Chvostek sign. All of these manifestations are thought to be related to severe drug-induced hypomagnesemia.

Some CNS chemotherapeutic agents are given intrathecally since they poorly cross the blood-brain barrier. Methotrexate when given intrathecally may cause meningeal irritation, transient or permanent paralysis, and encephalopathy. The effects are dose related individually and cumulatively with an onset of two to four hours after administration and a duration of twelve to seventy-two hours. Symptoms noted are nausea and vomiting, stiff neck, headache, and fever. Encephalopathy is rare and develops one to seven months post treatment. Fortunately, this syn-

drome is quite rare. However, newer protocols utilizing higher dose methotrexate even with leukovoran rescue have been reported to cause encephalopathy.

Beyond these effects of radiotherapy and chemotherapy, concern has developed regarding subtle effects on the CNS of children treated with a combination of cranial irradiation and chemotherapy. A majority of these studies have dealt with leukemic children who have received prophylactic cranial irradiation and chemotherapy.

Goff[4] *et al.,* evaluated a group of children with leukemia treated at St. Jude's Hospital with a combination of irradiation and chemotherapy. They evaluated these children ten years after therapy and found abnormalities including distractability and memory deficits, which were most prominent in children treated before eight years of age. Interestingly, the four year post-treatment evaluation failed to show any intellectual abnormalities in the same children. Other studies support these real, but mild, long-term effects on intellect in leukemic children treated prophylactically with cranial irradiation. However, children with brain tumors who have received higher doses of irradiation, may be left with far more significant abnormalities of intellectual function.

Raimondi[6] *et al.,* compared a group of children with medulloblastoma treated by a combination of irradiation and chemotherapy following surgery and a group of children with astrocytoma treated with surgery alone. The astrocytoma group had IQ's greater than 90 compared with only 11% of the medulloblastoma patients. This study strongly implicated irradiation and possibly chemotherapy as the etiology of poor intellectual function.

CNS malignancies in children need no longer be regarded as uniformly fatal. Newer irradiation and chemotherapy protocols coupled with surgery have lengthened survival rates significantly. Careful attention should now be given to identify not only acute side effects but more subtle complications as well. The comprehensive follow-up clinic at Arkansas Children's Hospital combines the physician, social worker, physical therapist, speech therapist, audiologist, and psychologist to diagnose early any recognized side effects. Prompt intervention can then be directed toward any problem areas and allow maximum potentials to be reached by these children.

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Surgical Overview:

Informed Consent and Treatment Of Primary Breast Cancer

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Deciding on the initial treatment of breast cancer presents a dilemma to physicians involved in its therapy. To be the first in any new treatment endeavor carries the risk of having made the wrong decision against the possible benefit of utilizing a new innovative approach which may bring great benefits.

Segmental mastectomy with axillary node sampling and radiotherapy is a frequently discussed alternative to the more standard modified radical mastectomy. The evolution from the Halstead radical mastectomy to the modified radical mastectomy required about 80 years. The additional change to segmental resection is an even larger hurdle from an oncologic viewpoint.

Published studies show similar disease free intervals and cure rates for selected patients treated by either modified radical mastectomy or a segmental resection followed by radiotherapy. There is still some concern about the length of followup time and the limited number of studies that have addressed this question. However, both the medical and lay press contain numerous articles promoting breast conservation by this treatment.

With the wider acceptance of segmental resection as a primary therapy for breast cancer, there is an increasing responsibility to present this as an alternative treatment. If a physician feels a particular treatment regimen is inferior, it is unreasonable to expect him/her to recommend it. However, it is reasonable for the patient to expect a full discussion of the treatment possibilities. A physician is obliged to recommend what he considers the best treatment but only after discussion of all alternatives.

The goal in the treatment of breast cancer is cure. The goal of the breast sparing procedure is to achieve the same cure rate as standard mastectomy and have a better cosmetic result. If a breast saving procedure jeopardizes cure, then it should not be considered. If a good cosmetic result cannot be obtained, the segmental mastectomy should not be utilized. However, if cure is not jeopardized and good cosmetic results can be obtained, then segmental mastectomy plus radiotherapy is an alternative that should and must be discussed.

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ANSWER—Electrocardiogram of the Month

DISCUSSION: The ECG shows the patient to be in sinus rhythm with na evidence either of first or second degree heort block. The oxis is to the left but other feotures of fasiculor block are absent. The QRS durotion is 0.08 seconds, sa bundle bronch block is not present. Thus, a temporary pocemaker wauld be af no immediote benefit to the patient. There are impressive Q-woves in II, III, AVF, and V_3-V_6 olang with 0.04 second R-waves in V_1-V_2. These woves suggest past inferior, onterior, ond true posteriar infarction, certainly lending credence to the history of "heart ottocks" in the past. Changes of acute inforction are not seen, but the ECG becames less sensitive and specific for acute changes with mounting numbers of infarcts. A low output stote may appear with ony infarct ond the patient has some physical signs to suggest this possibility, so pulmonary ortery catheterizotion would be of diagnostic and therapeutic use. Pericarditis, suggested by the friction rub, might relate either to acute infarctian or to Dressler's Syndrame so decisions relating to the use af streptokinose or heparin could be influenced by the presence of pericordial effusion which could best be seen with an echacardiagram. Thus, of the procedures mentioned, temporary pacing would be of less immediote utility than either pulmonary artery cotheterization or echocardiography. The feature editor wishes to thank Dr. Lambert of the UAMS Division of Cardiology for his cantribution to this month's feature.



EDITORIAL

Thyroid Disorders

Alfred Kahn, Jr., M.D.

The thyroid gland has probably been studied more than any other endocrine gland, and yet there are many unsolved problems pertaining to thyroid function.

One of the better new articles is entitled "Thyroid Function in Nonthyroidal Illnesses" by Chopra, Hershman, Pardridge, and Nicoloff—a UCLA Conference published in *Annals of Internal Medicine* (Volume 98, page 946, June, 1983). The symposium was started by Dr. Chopra who classified this subject into four categories: (1) Low triiodothyronine syndrome, (2) low triiodothyronine and low thyroxine syndrome, (3) high thyroxine syndrome, and, lastly (4) a mixed form. Dr. Chopra characterized the low T-3 syndrome as being present when an individual is obviously in a Euthyroid state but has a low T-3 and a normal T-4. This is said to be found in liver disease, malignancy, kidney disease, myocardial insufficiency, burns, and infections. At times this is reported to be present in individuals who do not get an adequate diet. The dialyzable fraction of T-4 and T-3 are said to be increased. The thyrotrophic hormone is usually normal in these cases.

Severely ill patients with a variety of disorders often get the so-called low T-3 or low T-4 syndrome, according to Dr. Chopra. When a test dose of thyrotrophine-releasing hormone is given, the patient is said to have a normal response—as is the patient with a low T-3 syndrome. Again in this symposium, the dialyzable T-4 was generally normal or high. It was suggested that the results of these studies indicate that the low T-4 is a result of decreased serum binding of thyroid hormones, but this is not certain. Apparently the low T-3 or T-4 is often a harbinger of mortality if found in a seriously ill patient. The high T-4 syndrome, according to Dr. Chopra, has been noted in individuals who took Iodine in diagnostic drugs, in patients with liver disease, and in acute intermittent porphyria. He goes on to state that the major etiologic factor for high T-4 is an increase in serum level of thyroxine hormone binding globulin. It is said that the dialyzable fraction of T-4 and T-3 is normal or low.

In the context of these cases, Dr. Chopra has listed some interesting questions — for example, how do you determine if a patient has Euthyroidism in the presence of these abnormal tests — and should these patients be treated with thyroid replacement therapy?

The matter of free thyroxine in nonthyroidal disease was discussed by Hershman who states that in many systemic illnesses T-3 and T-4 levels are reduced and the reduction seems to parallel the severity of the illness. He recommends getting a free T-3 T-4 level if a sick patient has a low T-4 and T-3 concentration using ordinary tests. He also recommended doing serum thyrotrophin levels which in general turn out to be normal. If the thyrotrophine level was quite high, it indicated low thyroidism.

Dr. Hershman brought up the point that some of these patients may have true hypothyroidism and it may be some type of adaptation to severe systemic illness. It is said that patients who are quite ill and have a low circulating T-4 level have a reduced function of T-4 secretions. The cause of this could be reduced sensitivity to thyrotrophin by the receptor or post-receptor tissue — other things which might play a role are elevated adrenal steroid level, depletion of the intracellular chemical substances, etc. Dr. Hershman states that thyrotrophin secretion seems to be reduced in serious illnesses for a variety of reasons, including the effect of other hormones on the thyroid gland and because of the effect of abnormalities in the neuro transmitters as, for example, opiate peptides. It is conceivable the

thyroid releasing hormone is diminished and this, in turn, diminishes the thyrotrophin level.

One question which arises is whether or not patients with hypothyroidism, which is an adaptation of illness, should be treated with thyroid hormone. Dr. Hershman indicates against doing this. If true pre-existing hypothyroidism is present, it would be reasonable to treat the patient, and the author states that the serum thyrotrophin level is the best indicator of underlying hypothyroidism.

Dr. W. M. Pardridge discussed in this same symposium the "Bioavailability of Plasma-Protein-Bound Thyroid Hormones." He points out at the outset that the bound thyroid hormone levels are very much higher than free thyroid levels—in the transport stage—and it is the blood levels which physicians ordinarily measure. Dr. Pardridge reports that he and his associates have found "that the bioavailable T3 in vivo in a peripheral tissue, such as brain, is equaled to that 10% of the albumin-bound T3; this is 10-fold greater than the free (dialyzable) T3 in vitro. Conversely, the bioavailable T3. Conversely, the bioavailable T3 in liver is equal to all of the albumin-bound fraction and more than half of the thyroid-hormone-binding-globulin-bound moiety. The bioavailable T4 in brain has not been measured directly, but is probably equivalent to the bioavailable T3 in brain." Dr. Pardridge states that "The model (in Figure 3) suggests that the difference in capillary transit time in tissues such as brain or liver provides the physical basis for the observation that thyroid-hormone-binding-globulin-bound T3 is transported into liver, but probably not into brain. Table 4 shows the half-time of T3 dissociation from thyroid-hormone-binding-globulin at 37°C is 4s. Thus, the rate of T3 debinding from thyroid-hormone-binding globulin is long compared with the capillary transit time in brain but is short compared with the transit time in liver. Conversely, the half-time of T4 dissociation from thyroid-hormone-binding globulin is 39 s (Table 4), which is long compared with the transit time in liver or brain. On the other hand, the half-time of T4 or T3 dissociation from albumin is within milliseconds, and this rate is rapid compared with almost any capillary transit time." The author makes another illuminating remark to the effect that "the function of a plasma protein binding system is the amplification of the hormone delivery (to the liver)."

Dr. J. T. Nicoloff discussed thyroid hormone kinetics in nonthyroidal illnesses. He brought up the point that decreased levels of T3 in the blood are presumed to be the result of poor conversion of T4 to T3 in the peripheral tissues. If the T4 is decreased, he indicates that it may be a decreased production of T4 by the thyroid gland. It was of further interest that Dr. Nicoloff reports that despite the low T4 in the blood as conventionally measured free T4 was usually normal. During the course of his discussion, Dr. Nicoloff also went into the relation of thyroid function tests and prognosis in nonthyroidial illness. He says that the complete sign of low T3 and T4 is nonthyroidal illness is not really known, but there is reason to think that they may reflect the degree of illness and to a certain extent the length of illness. It is said that a low total serum T4 conveys a poor prognosis.

In the concluding portion of the symposium, Dr. Chopra states that the dialyzable fraction of T4 may be elevated in nonthyroidal disease and this suggests the possibility of an inhibitor which prevents thyroid hormone from binding to proteins in the serum. He states that he has found such an inhibitor in 20% of the patients he studied—who had nonthyroidal illness. Dr. Chopra speculates that this inhibitor may be related to something that has an adverse effect on neutrophil phagocytosis. If so, it would help explain why patients with a low T4 in nonthyroidal illness have such a poor prognosis; it is a very provocative thought.

Another interesting article on the thyroid gland is that of "Hyperthyroidism due to Thyrotropin-Secreting Pituitary Tumors" by Smallridge and Smity (*Archives of Internal Medicine,* Volume 143, page 503, March, 1983). As the authors point out at the outset, in Graves' disease the hyperactivity of the thyroid gland is not associated with excessive serum thyroid stimulating hormone; it appears to be related to a thyroid stimulating immune globulin(s). Hyperthyroidism is often seen, as the authors indicate, in thyroiditis and thyroid nodules. The main thrust of this article, however, is that hyperthyroidism can be due to excessive secretion of thyrotropin by pituitary tumors. However, there are some cases of excessive circulating stimulating hormone without an obvious pituitary tumor, and one would assume there is an inappropriate excessive production of

thyrotropin by an apparently normal pituitary gland. Smallridge and Smith describe 33 cases who had hyperthyroidism with elevated T3 or T4, excessive thyrotropin secretion, and a pituitary tumor; of these, there were 16 males and 17 females. These individuals usually had diffuse goiters and rarely had exophthalmos. They further state that these cases often have an overproduction of some other trophic hormone beside thyrotropin—as growth hormone, prolactin, etc.

The authors have outlined the laboratory findings in these cases and the main finding is that of measureable thyrotropin hormone despite the presence of elevated T3 and/or T4. So-called long acting thyroid stimulating substance is not found in these cases. Appropriate X-rays will show macroadenomas of the pituitary and this is diagnostically helpful. The authors recommend that certain laboratory tests may be somewhat helpful in studying these cases; for example, thyroid stimulating hormone will increase if the patient is administered Dopamine antagonists and will decrease in the presence of Dopamine agonist. It is said that the response to antithyroid drugs is variable in these cases. Adrenal steroids tend to suppress thyrotropin but if Alpha subunits are also present they are not suppressed and this may be a diagnostic help. The authors recommend surgery as being beneficial if a pituitary tumor is found. Long term radiation therapy is still under evaluation, but the authors comment that in some cases it appears to be curative. The authors state that medical treatment for this disorder is still uncertain.

Baker, Gharib, and Markowitz have published an interesting article entitled "Correlation of Thyroid Antibodies and Cytologic Features in Suspected Autoimmune Thyroid Disease" (*The American Journal of Medicine,* Volume 74, page 941, June, 1983). The authors state that antibodies to thyroid substances have been reported in the medical literature in the presence of autoimmune disease; antithyroglobulin antibodies were found; antibodies to microsomes have been found—also colloid antibodies and cell surface antibodies have been found. This study was made to relate cells obtained from the thyroid gland by aspiration biopsy and thyroid antibodies. Clinically, the cases fitted Hashimoto's thyroiditis. Six hundred and forty-three cases were reviewed and commenting on their studies Baker et al. state that antithyroid globulin antibodies are found in normal patients at times and this may be accompanied by a low titer of antimicrosomal antibody. In these case studies by Baker, Gharib, and Markowitz, antithyroid globulin antibody was found in 101 cases and antimicrosomal antibodies were found in 338 cases. They state that a significant antithyroid globulin and antimicrosomal titer was proved in about half the patients who were examined for these substances. After reviewing their material, they stated "the cytology of Hashimoto's thyroiditis correlated better with antimicrosomal antibody than with antithyroid globulin antibody titers." They recommend fine needle aspiration biopsy for definitive diagnosis when other clinical means did not establish a clear-cut diagnosis.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Grant County's Best Loved Citizen Dr. O. R. Kelly

Nita Lancaster Webb

Civic leader, religious inspiration, philanthropist, educator and physician, Obadiah Rombo Kelly was born June 10, 1885, in Grant County Arkansas, son of the late Reverend and Mrs. Miles Kelly. His family included other doctors as well as ministers, chaplains and civil servants. He graduated from University of Louisville School of Medicine in 1909 and set up practice in Carthage, Arkansas, for a brief period before moving to Sheridan in Grant County. In his early years he made his calls on a horse, often harnessed by his wife, Ellen, the mother of his only child, Mary Kelly McKenzie of Hughes. Soon he progressed to a buggy and in 1917 bought his first car, a Model T Ford. Through the years, wife Ellen worked beside him as nurse, receptionist and x-ray technician.



As physician for the local lumber company, the Missouri-Pacific Railroad employees in the area and often the only doctor in the county, Dr. Kelly had little time of his own, and yet he never turned away a patient because he could not pay. He frequently gave away medicines and even paid for glasses for the needy. Office calls frequently went for "four bits" to a dollar and maternity cases were charged $15 to $20. His motto was "We are here to serve our fellow man." His slow manner, his soft-spoken words, his tenderness, his very presence, eased suffering and endeared him to every patient and family. Even in cases of death and tragedy he managed to bring comfort.

In spite of his extensive practice, he found time for civic activity. A Baptist, he was a supporter, leader and regular in attendance at the First Baptist Church. He was a Mason and a charter member of the Sheridan Rotary Club which he helped to organize. He donated the first $5,000 toward construction of the Grant County Memorial Building which houses the public library and an extension homemakers clubroom. As an educator, Dr. Kelly served 39 years on the Sheridan School Board, 26 as president. Kelly-Williams Gymnasium, to which he made a liberal financial contribution, was named for him. Every spring he gave each graduate an inspirational book with his own personal message attached.

Devoted to humanity Dr. Kelly, Dr. Obie to all who loved him, used his life to the fullest. He even died on his lunch hour April 21, 1955. It was certainly fitting that the Sheridan Headlight carried the headline "Death Claims Life of Grant County's Best Loved Citizen." A few days later the 1955 graduating class received their gift books with Dr. Obie's unfinished message inside.

MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

HCFA Adds New Wrinkle To Fee Freeze . . . AMA Intends To Sue

Medicare officials charged with designing a new system to freeze and monitor physician fees added a new wrinkle to a system in early August. And on August 28, the AMA Board of Trustees announced the Association's intention to file a law suit challenging the constitutionality of the provisions of the Medicare amendments passed with the Deficit Reduction Act of 1984.

The HCFA modification responded to concerns of beneficiary representatives, particularly the 16 million member American Association of Retired Persons. As first contemplated, the monitoring system would have compared physician's charges during the 15-month freeze with his or her highest charge for the same procedure during the three month base period from April-June 1984. As described to American Medical Association representatives on August 10, however, it now would compare both the highest charge and the "customary charge pattern."

The modification would affect "nonparticipating physicians" who have maintained more than one fee structure for some services. It means they will be monitored by the carriers and the government to determine whether the distribution of charges among patients has become more heavily weighted toward the higher charges. Extreme shifts in the intensity of procedures billed for Medicare patients would also be flagged.

If, during the base period for example, a physician had charged 80% of his Medicare patients $25 for a regular office visit and charged the other 20% of Medicare patients (such as those eligible for Medicaid) $15, he would be flagged when the distribution of charges shifted to 90% at $25 a visit and 10% at $15 a visit.

Medicare carriers are expected to identify and monitor for each nonparticipating physician his or her 10 most frequent services and another 10 procedures chosen at random.

Surgeons will probably be monitored for more than 20 procedures.

If the monitoring system flags increased charges or variations in the distribution of charges, the Medicare carrier will contact the physician for an explanation. If the physician cannot provide a sufficient explanation, he or she will be monitored monthly. If the pattern continues, the case would be referred to the HHS Inspector General for possible sanctions including fines or "debarment" from Medicare.

HCFA officials previously had intended to send two letters to physicians; the first explaining the mandates of the law that created the freeze; the second to include a participation agreement for physicians who agree to accept 100% of Medicare cases on assignment.

The explanation and the participation agreement have now been combined in single letter which was sent to physicians late in August. Participation agreements must be signed and mailed to the carrier by October 1.

On or about October 1, the Medicare carriers—upon request—will provide physicians with a preliminary profile of their charges during the base period. Final profiles will not be available until January, since some claims may not be filed until the end of the calendar year.

* * * *

AMA Will Sue Over Medicare Amendments

The American Medical Association Board of Trustees on August 28 announced the Association's intention to file suit challenging the constitutionality of the Medicare amendments passed with the Deficit Reduction Act of 1984 containing the reimbursement freeze under Medicare and provisions establishing "participating" and "nonparticipating" classes of physicians.

Announced by AMA Board Chairman John J. Coury, Jr., M.D., the statement said that the AMA believes that the amendments will deny Medicare beneficiaries the ability to select the physician from whom they will receive care. In addition, the legislation freezes non-participating physicians' fees to Medicare patients until October 1, 1985. This singles out non-participating physi-

cians, alone among all segments of our society, by forbidding them from freely entering into contractual agreements with patients.

The Act authorizes penalties against nonparticipating physicians (those physicians who do not agree to accept assignment in 100% of their Medicare cases) who raise their charges.

Finally, the provisions that mandate restrictive fee schedules for clinical laboratories will deprive Medicare beneficiaries and others of complete medical services by promoting the reduction of those services, particularly in small and rural communities.

The AMA is concerned that this legislation will seriously jeopardize the availability, access and complete delivery of medical services to the American people.

* * * *

Cyclamates Revisited

Reconsidering its 14-year ban, the Food and Drug Administration has asked scientists to take a second look at the 21 studies of the artificial sweetener.

Cyclamate dominated the artificial sweetener market in the 1950s and 1960s, with sales totalling a billion dollars a year and consumption running as high as 18 million pounds a year. As a tabletop, low calorie sweetener, it was marketed under the trade name "Sucaryl" and promoted for obese persons and diabetics.

When a single rat study in Canada indicated that the sweetener caused bladder tumors, however, the FDA banned its use in 1970. This rat study later was criticized by the American Statistical Association and American Society of Toxicologists, which cited statistical fallacies and biased methodology.

Now, the FDA has reevaluated the research, finding "very little credible data" that cyclamate causes cancer in animals. FDA's new report, based on an internal study completed last April, especially criticizes the Canadian rat study.

"Cyclamate . . . is not carcinogenic," asserts the new FDA report. Moreover, it adds, "no newly discovered toxic effects of cyclamate are likely to be revealed if additional standardized studies were performed."

FDA scientists have concluded that the results of the controversial rat study "are confounded, not repeatable, and not explicable." The strain of rats in which tumors were found is now believed to spontaneously produce tumors, which may be unrelated to cyclamate consumption.

Just to be sure, the FDA has asked the National Research Council to conduct an independent assessment of the product under a $390,000 contract. The NRC review will be complete next March.

* * * *

Smith-Kline Charged On Heart Drug

For the first time in history, the U. S. Justice Department in August filed criminal charges against a pharmaceutical company for failing to promptly report to federal officials the toxic side effects of a drug.

The drug, Selacryn (ticrynafen), has been linked to tentatively 25 deaths and 340 cases of liver and kidney disease.

The Smith-Kline Corporation and four company officials waited 36-105 days before reporting cases of liver damage in patients taking the antihypertensive drug, the government says. Federal law requires that drug companies report unexpected adverse effects to the Food and Drug Administration within 15 days of receipt of information.

Fourteen counts charge that the company and three of its physicians failed to report these adverse effects. Twenty additional counts against those parties and a fourth physician charge that the drug label contained inaccurate information, claiming that no causal relationship had been established between the drug and subsequent liver damage.

All charges are misdemeanors because there is no evidence of willful violation of the law. Among those charged are officers of United States Pharmaceutical Products, an S-K subsidiary.

* * * *

HCFA Officials Deny Rationing Under PROs

Federal officials in charge of Medicare's new peer review organization system have sought to diffuse charges that the system relies on state quotas that could lead to rationing of care for elderly and disabled beneficiaries.

Health Care Financing Administration officials defended their implementation of the PROs at a Senate Finance Health Subcommittee hearing. Subcommittee Chairman David Durenberger (R-MN), who sponsored the original PRO legislation, held the hearing in response to widespread criticisms stemming from the first PRO contracts.

The criticisms centered on admissions and quality objectives in the contracts that specified

percentages and numbers of cases by which the PROs intended to reduce certain types of admissions, hospital complications and "avoidable deaths."

The major questions centered on how the goals were arrived at, whether they are achievable, and how strictly HCFA will hold the PROs to the objectives in their contracts.

Several of the witnesses—including representatives of the American Medical Association and the American Medical Peer Review Association urged that the PRO contracts be modified to specify that contracts could be renegotiated. Sen. Durenberger questioned HCFA's decision to seek actual reductions in admissions rather than simply trying to hold the line under the new diagnosis related group (DRG) payment system which critics say could increase hospital admissions.

HCFA Administrator Carolyne Davis insisted that the objectives should be viewed as targets not quotas. She told Durenberger that his legislation's requirement of performance-based contracts necessitated the development of specific numerical "milestones" against which to measure the PRO performance.

Davis also contended that although the PRO bidders worked within HCFA parameters, the bidders set their own goals, surprising the HCFA officials in some instances with the "ambitiousness" of the proposals. She claimed the objectives "are achievable" and defended the decision to call on PROs to reduce rather than simply hold down admissions.

The HCFA Administrator pledged, however, that "even though we are being specific in the contracts, we do not intend to be rigid or inflexible if we learn, during the course of the contract, the numbers should be modified. We are always ready to renegotiate with the PROs if they have overstated the nature of a particular problem, or if they have identified a more pressing problem for review, or even if the statistics they used to develop the objective in question were incorrect."

Davis, who also pledged to work with hospital and medical groups in implementing the program, met with the AMA, AMPRA and the American Hospital Association August 21.

* * * *

Physicians To Be Recruited For Research

The National Institutes of Health and the Howard Hughes Medical Institute in August launched a new multi-million dollar program to boost biomedical research and increase the flow of new physicians into research careers.

The program will chose 30 medical students a year for six months to a year of research under the guidance of NIH scientists. Recruitment will begin this fall, with the first group of students entering the program in the fall of 1985.

"It is expected that this early exposure to the excitement and intellectual challenge of research —after the second year of medical school—will encourage more medical students to undertake careers in biomedical research," said Donald S. Fredrickson, M.D., president of the Hughes Medical Institute (HHMI).

There is a serious shortage of physicians in research, say authorities. The consequence, they fear, may be a breakdown in the transfer of knowledge from the lab to the bedside.

HHMI, one of the largest private medical research organizations in the world, will support the program at a cost of $10.5 million for the first five years, which includes stipends, travel and support for the students, and building renovation and construction. NIH and HHMI will cooperate on selection of students, counseling, teaching, and interaction with students when they return to their home institutions.

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Tougher Labels For Two Anti-Inflammatories

Facing growing criticism of the safety of two anti-inflammatory drugs, the Department of Health and Human Services (HHS) has decided this month to keep the drugs on the market, but toughen up their labeling.

The drugs are overprescribed, not uniquely beneficial for any illness, and are too often administered for acute conditions such as tennis elbow or bursitis, HHS Secretary Margaret Heckler announced. She fell short of recommending withdrawal, however. The evidence does not indicate that the drugs pose an imminent hazard to public health, or that their approval applications should be suspended, she said.

The drugs—phenylbutazone and oxyphenbutazone, marketed since 1952 and 1961 under the trade names Butazolidin and Tandearil, respectively—face declining popularity, as safer alternatives have become available.

The public interest organization Health Research Group recently petitioned HHS to pull the drugs off the market, saying they have caused more than 10,000 deaths among the 135 million

people who use them worldwide. Several other countries — including Britain, Sweden, Norway and Israel — have removed the drugs from the market or restricted their use.

Secretary Heckler rejected the HRG petition, but proposed the following changes:

★ the medicines should be available for chronic arthritis victims in whom the risk of fatal blood disorders is reasonably related to the benefits.

★ the labeling should be tightened to emphasize to doctors that they should not prescribe the drugs for acute, self-limiting conditions.

* * * *

Custis To Serve Paralyzed Vets

Donald L. Custis, M.D., former medical director of the Veterans Administration, announced this month that he will serve as director of medical services for the Paralyzed Veterans of America (PVA).

In his new position, Dr. Custis will coordinate PVA's programs that care for veterans with spinal cord injuries. PVA, a long-time supporter of spinal cord research, is hoping to boost the number of young physicians in the field of injured veteran care.

* * * *

HCFA Lowers DRG Payments To Hospitals

New data indicate Medicare hospital payments for fiscal 1985 should be even lower than the limits proposed in July, Health Care Financing Administration officials told a Senate panel in August.

The proposed increase of about 4% is regarded as inadequate and unfair by hospitals and some Congressmen, however, and HCFA Administrator Carolyne Davis, Ph.D., said the industry and Congressional objections will be weighed against the implications of the new data in determining whether to adjust the proposed payment levels. She warned, however, that if the current payment formula is challenged, similar results can be achieved through other less equitable adjustments.

The levels proposed in July would result from a 5.6% increase in DRG rates combined with a 2.4% across-the-board decrease in DRG weights.

Davis told the Senate Finance Health Subcommittee on August 8 that the adjustment was necessary to comply with the "budget neutral" requirements of the DRG law. She maintained that the 2.4% adjustments in weights was required because hospitals had upgraded the intensity of their coded admissions by more than anticipated.

Hospitals contend that the changes in coding reflect actual changes in their patient case mix and claim that HCFA is misconstruing the "budget neutrality" provisions. Both Finance Committee Chairman Sen. Robert Dole (R-KS) and Subcommittee Chairman David Durenberger (R-MN) have asked the Reagan Administration to reconsider its proposed payment levels. According to news reports, HHS Secretary Margaret Heckler intends to honor their requests and direct that the weight reduction not be included in final regulations due September 1.

* * * *

Dr. Young Becomes New FDA Commissioner

Frank E. Young, M.D., was sworn in in August as new Commissioner of the Food and Drug Administration, ending an 11-month hiatus since Arthur H. Hayes, M.D., left the post last fall.

Young, a microbiologist who has been dean of the University of Rochester medical school since 1979, will oversee roughly 7,000 FDA employees at the agency's headquarters in Rockville, MD, the National Center for Toxicological Research in Jefferson, AR, the Engineering and Analytic Center in Winchester, MA, and 12 laboratories and seven specialized research centers.

"There are few tasks more demanding in federal service than heading up the FDA, an agency which oversees the safety and efficacy of what we eat and the medicines to cure our ills," said HHS Secretary Margaret Heckler. Dr. Young's responsibility, she said, "is to balance technical breakthroughs and public health."

The current "explosion" of research offers huge benefits, Dr. Young said. "I welcome the challenge to apply ever-expanding science to political decisionmaking. We at FDA must chart a course through these turbulent times," he said.

Dr. Young first went to Rochester to serve as chairman of the department of microbiology and professor of radiation biology, pathology, microbiology and biophysics. While there, he developed a laboratory for research into vaccine development and gene cloning, publishing more than 150 articles.

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Adverse Reactions To Food

The Allergy and Infectious Disease Institute at NIH has produced a report called "Adverse Reactions to Foods." The report is an attempt to come to grips with controversial questions about

food allergy and its management. The problem has plagued the practicing allergist in recent years, mostly because advancing technology permits much more precise measurements of allergic response than were available when food allergists first began treating patients with food allergies. Much of this new work has raised doubts about these earlier therapies.

A few years ago the allergy institute made an attempt to resolve the issue through a consensus development conference. But proponents of some aspects of food allergy testing and management, fearing their clinical practices threatened, torpedoed the conference before it could get organized.

The present report, which was produced in association with the American Academy of Allergy and Immunology, attempts a dispassionate approach, examining the present status of research in the field with the idea that this will provide some guide to what might be a profitable research avenue to follow.

* * * *

Abnormal Cells Held Suitable For Vaccine Production

The use of abnormal cells for cultivating viruses for vaccines got something approaching a green light from participants at a two-day meeting at NIH at the end of last month. For years cells that had evidence of potential carcinogenicity such as an abnormal chromosome number were viewed with suspicion as materials on which to cultivate viruses for human vaccines.

Today, however, the conference agreed, the methods of "cleaning up" the final product—a suitable antigen—have now reached the stage where it is highly unlikely that any DNA with malignant potential is left.

The result will be to permit the use of cells such as Vero cells, for example, on which to cultivate poliovirus for the new Salk inactivated polio vaccine. Vero cells are a subhuman primate cell line. The use of these cells is crucial to the success of this vaccine since this depends on very high titers of virus which can only be economically achieved on such cells. It also opens the way to using malignant cell lines for any possible anti-AIDS vaccine since the agent most closely identified with AIDS, HTLV-III, can only be grown on a human leukemia cell line.

However, the FDA says that the conference opinions does not mean automatic approval of such cells for vaccine production. When it comes to licensure, each agent will be decided on a case-by-case basis.

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COUNCIL MINUTES
August 19, 1984

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, August 19, 1984, in the Camelot Inn, Little Rock. Present were Lawson, Wilkins, Burge, Weber, Rodgers, Lytle, J. Bell, P. Bell, Hestir, L. Langston, Wallick, Warren, Sanders, Bracken, Clardy, Jouett, Jones, Morgan, Pearson, Lilly, Phillips, Chudy, Hart, Saltzman, P. Smith, P. Kolb, M. Henry, Townsend, George Mitchell, Bob Benafield, Berry Thompson, Mrs. James Weber, Mrs. Deno Pappas, Mr. Mitchell, Mr. Wroten, Mr. LaMastus, Miss Richmond, and C. C. Long.

The Council transacted business as follows:

1. The Council voted to suspend the rules to hear a report from Legal Counsel on the incorporation of an organization under the name "Arkansas Medical Society." The Council accepted the recommendation of legal counsel that the matter be investigated by him in whatever manner he feels consistent with the best interest of this Society.
2. The Council approved minutes of the June 24 meeting.
3. Chairman Lawson advised the Council that physicians had been selected for appointment to the Cost Effectiveness Committee as follows:

 Kemal Kutait, Fort Smith
 Roger Cagle, Paragould
 Joseph Stainton, Jonesboro

 The Council approved the appointments by Chairman Lawson.
4. Chairman Lawson congratulated the Society's Assistant Executive Vice President, Ken LaMastus, on attaining certification as a "Certified Association Executive."
5. The Council approved actions of the Executive Committee regarding the Blue Cross-Blue Shield group plan for the membership.
6. Informational reports were presented to the Council on actions authorized at the June meeting:
 (1) Monies in the Shuffield Trust Fund were invested in a United States Treasury note;
 (2) A lease was signed for the space for the

Little Rock branch office in the Plaza West Building effective September 1;

(3) The executive vice president will attempt to lease the 2,500 square feet of office space which is covered by the Society's lease and which will be vacated by the Arkansas Foundation for Medical Care on September 30.

7. Purcell Smith reported for the Cost Effectiveness Committee; no action of the Council was requested.
8. T. E. Townsend reported on the June meeting of the House of Delegates of the American Medical Association.
9. Lloyd Langston, chairman of the Building Committee, made a brief report to the Council. He advised that the committee had engaged John Flake and Company. The firm has made analysis and site reviews; the committee will meet to review information on 17 potential sites. When the committee has narrowed the site selections down to 3-5, the members of the Council will be given an opportunity to visit those sites before a decision is made. There was no Council action.
10. Cynthia Weber addressed the Council regarding the MEDVOTE project of the AMA and AMA Auxiliary with the goal of getting all physicians and family members registered to vote in the general election this year.
11. Berry Thompson, orthopaedic surgeon from Little Rock, presented a resolution for consideration of the Council regarding the freeze on physicians' fees and the Blue Cross-Blue Shield usual, customary and reasonable allowance. The Council voted to take no action on the proposal from Dr. Thompson.
12. Chairman Lawson presented the request from the State Insurance Department for a Society representative on a committee being created to review and recommend legislation to regulate alternate delivery systems such as PPO's. The Council voted to participate in the committee, with the representative from the Society appointed by the Council Chairman. The Council requested that the Executive Committee meet on August 22 to review the nomination of the chairman and approve the selection of the Society representative. It was generally agreed that either the Chairman of the Council or the Secretary of the Society should represent the Society at the first meeting of the Insurance Department Committee if the official Society representative cannot be designated by the date of the meeting.
13. The Council considered the request from the Arkansas Pharmacists Association for Society representation on its Therapeutic Review Criteria Committee and four area Drug Utilization Review Committees under its DURbase Arkansas program. The Council voted to direct that the Executive Committee evaluate the request for Society representation; if the Executive Committee feels Society participation is indicated, the Executive Committee is to contact physicians regarding willingness to serve and to make the selections for the five committees.
14. President Wilkins discussed with the Council the possibility of membership in the State Society without component society membership and recommended that the question be referred to the Constitutional Revision Committee for consideration. The matter was received for information by the Council.
15. Chairman Lawson presented the request from the newly formed medical student group for a charter from the State Society. The Council was advised that the proposed Constitution and Bylaws of the medical student group had not been reviewed for compliance with the State Society Constitution and Bylaws. The Council voted to grant the charter if the Constitution and Bylaws is found to be in compliance with the Constitution and Bylaws of the Society.
16. Chairman Lawson reviewed a recommendation from the American Medical Association that the Society develop a program to encourage physicians to accept Medicare's approved amount as full payment for beneficiaries for whom additional payment would be a hardship and to involve the elderly themselves for discussion of their health care problems and concerns. The Council voted to ask the program committee for the 1985 Annual Session to favorably consider inviting a member of the American Association of Retired Persons to address the Society regarding their problems and concerns about their medical care.
17. Mr. Mitchell reported to the Council that there had been no response to the letter the Council requested be written to the attorney for Mr. Paul Schaefer regarding the Arkansas

Medical Society Pension Plan.

18. Mrs. Pappas, president of the Auxiliary, announced that the Society's financial assistance would not be needed for the cookbook project and thanked the Council for its offer.

Following announcements of the seminars being sponsored by the Public Relations Committee and the Arkansas Rural Health Conference, the Council adjourned at 3:00 p.m.

APPROVED: J. Larry Lawson, M.D.
Chairman of the Council



THINGS TO COME



January 7-11

MRI, CT and Interventional Radiology. Radiology Research and Education Foundation of the University of California School of Medicine, San Francisco. 27 hours Category I AMA. Fairmont Hotel and Tower, San Francisco. Fee $425. For further information, call 415-666-5731.

January 14-18

Second Annual Ixatapa Postgraduate Course in Diagnostic Radiology. Department of Radiology, University of California School of Medicine in San Francisco. Camino Real, Ixtapa, Mexico. 32 hours Category I AMA. Fee $425. For further information, call 415-666-5731.

January 21-25

Eighth Annual San Diego Postgraduate Assembly in Surgery. Sheraton Harbor Island, East San Diego, California. Approximately 28 hours, AMA/CMA credit. For further information, contact Office of Continuing Medical Education M-017, University of California San Diego School of Medicine, La Jolla, California 92093; telephone 619-452-3940.

February 2-9

Second Annual Aspen Postgraduate Course in Diagnostic Radiology. Department of Radiology, University of California School of Medicine, San Francisco. The Gant, Aspen, Colorado. 21 hours Category I AMA. Fee $425. For further information, call 415-666-5731.

April 18-21

109th Annual Session of the Arkansas Medical Society. Theme: Health Care Issues 1985. Arlington Hotel, Hot Springs.



Announcement

SYMPOSIUM ON PREVENTION OF INFECTIONS IN PEDIATRICS AND FIFTH ANNUAL PEDIATRIC INFECTIOUS DISEASE SEMINAR

DATE:
March 13-16, 1985.

PLACE:
Las Vegas Hilton Hotel.

ORGANIZED AND DIRECTED BY:
Dr. George H. McCracken, Jr. and Dr. John D. Nelson.

FORMAT:
Topics to be presented are situations frequently encountered in practice. Ample time for questions and discussion.

SPONSOR:
Dept. of Pediatrics, The University of Texas Health Science Center at Dallas, Southwestern Medical School.

ACCREDITATION:
21 credit hours, Category I, AMA. Approval for 18 PREP credits has been granted from the American Academy of Pediatrics. Acceptable for 18½ Prescribed hours AAFP.

FACULTY:
Philip A. Brunell, M.D., Charles M. Ginsburg, M.D., S. Michael Marcy, M.D., George H. McCracken, Jr., M.D., John D. Nelson, M.D., Larry K. Pickering, M.D., Jane D. Siegel, M.D.

FEE:
$250.00; $175.00 residents.

CONTACT:
Marian Troup, Seminar Coordinator
Dept. of Pediatrics
The University of Texas Health Science Center at Dallas
Southwestern Medical School
5323 Harry Hines Blvd.
Dallas, TX 75235
Telephone: 214/688-3439
or
Raymond W. Sarber, Executive Secretary

2212 Great Falls Road
Falls Church, VA 22046
Telephone: 703/536-7023

* * * *

ANNOUNCING AN NIH CONSENSUS DEVELOPMENT CONFERENCE ON: HEALTH IMPLICATIONS OF OBESITY

February 11-13, 1985
Masur Auditorium
Warren Grant Maguson Clinical Center
National Institutes of Health
Bethesda, Maryland 20205
Sponsored by the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases
National Heart, Lung, and Blood Institute
and the
NIH Office of Medical Applications of Research
With participation of the National Institute on Aging and the National Institute of Child Health and Human Development

A Consensus Development Conference on Health Implications of Obesity will be held at Masur Auditorium, the Clinical Center, National Institutes of Health (NIH), 9000 Rockville Pike, Bethesda, Maryland 20205, February 11-13, 1985.

Is Obesity Hazardous To Your Health?

Obesity has become a serious public health issue. While most public attention, and significant economic activity, has been devoted to cosmetic and aesthetic concerns about body weight, increasing evidence has accumulated in the scientific literature of the harmful medical (and psychological) consequences of being overweight and of its effects on longevity. There are health implications not only for the individuals affected but also for today's children: perhaps one-fourth of U. S. children are overweight, and these tend to become obese adults, who in turn tend to raise children who become obese.

Is there an ideal or desirable weight (by age, sex, and height, for example) for minimizing risk of illness and maximizing longevity? If so, how far above the ideal weight can an individual go before adverse effects on health and longevity are likely? Questions like these must be answered from statistical studies of populations, and the answers become guidelines based on probabilities.

Conference participants will consider these questions:

- What is obesity?
- What is the evidence that obesity has adverse effects on health?
- What is the evidence that obesity affects longevity?
- What are the appropriate uses and limitations of existing height-weight tables?
- For what medical conditions can weight reduction be recommended?
- What should be the directions of future research?

At the National Institutes of Health, consensus conferences bring together biomedical researchers, practicing physicians, representatives of public interest groups, consumers, and others to carry out scientific assessments of drugs, devices, and procedures in an effort to evaluate their safety and effectiveness.

To register for the consensus conference or to obtain further information, contact: Ms. Michele Dillon, Prospect Associates, Suite 401, 2115 East Jefferson Street, Rockville, Maryland 20852, (301) 468-6555.



PERSONAL AND NEWS ITEMS

DR. NICHOLS SPEAKS

Dr. David Nichols of Fort Smith spoke to the Life and Breath Club on "Anatomy and Physiology of the Respiratory System."

DR. HANN LOCATES

Dr. John Hann has opened an office in the Imboden Medical Clinic in Imboden.

DR. WEBER PRESIDENT

Dr. Pat Weber of Arkadelphia has been elected president of the Clark County Unit of the American Cancer Society.

DR. WARREN SPEAKS

Dr. George Warren of Smackover was guest speaker at the September meeting of the North

Central Arkansas group of the Arkansas Multiple Sclerosis.

DR. NELSON PROGRAM SPEAKER

Dr. Carl Nelson of Little Rock spoke on an overview of recent developments in orthopaedic and reconstructive surgery at a recent Continuing Medical Education program of the Baxter County Hospital.

DR. WHALEY ON PANEL

Dr. Lance Whaley of Helena participated in a panel program for the Phillips County Task Force against Child Abuse. The program was presented at a town meeting in September.

PHYSICIANS HONORED

Dr. James J. Pappas and Dr. Bruce Leipzig, both of Little Rock, received the prestigious Honor Award at the annual meeting of the American Academy of Otolaryngology-Head and Neck Surgery in Las Vegas. The two were among thirty-four physicians honored for contributions to the Academy's educational programs.

DR. FRIED IN INDIA

Dr. and Mrs. David Fried of Mena traveled to Bangalore, India, in September to serve as short-term volunteers for the Foreign Mission Board of the Southern Baptist Convention. Dr. Fried served as the surgeon for the Bangalore Baptist Hospital; Mrs. Fried worked with the hospital nutrition center.

Dr. Thomas Moffeit served Dr. Fried's patients while the physician was overseas.

DR. VAN GROUW IN BATESVILLE

Dr. Richard Van Grouw, a Cardiologist, has joined the White River Medical Center in Batesville.

DR. BRAUN JOINS DR. WALLACE

Dr. Jim Braun has joined Dr. Tom Wallace for the practice of Ophthalmology in Suite 204 at 505 West Grand in Hot Springs.

CLINIC ESTABLISHES MEMORIAL FUND

The Southern Clinic in Texarkana contributed $25,000 to establish a memorial fund at the University of Arkansas College of Medicine in memory of Dr. Robert Bransford. Dr. Bransford, who died in 1983, was a 1953 graduate of the University Medical School; he had practiced Surgery in Texarkana for 22 years. Contributions may be made to the fund by contacting Dr. Donald Duncan, chief of staff at the Southern Clinic, at 300 East Sixth in Texarkana, or the Office of University Development, 4301 West Markham, Slot 533, in Little Rock.

CANCER FORUM

Drs. Ford Barnes and Clark Erickson of Fort Smith were co-chairmen for the professional program of the 16th Annual Arkansas Cancer Forum held in Fort Smith. The theme of the meeting was "Cancer Treatment Today." Dr. David Bard of Little Rock was course director.

DR. FERRIS ELECTED

Dr. Ernest J. Ferris of Little Rock has been elected chief of staff of University Hospital for a term of two years. Dr. John Shock of Little Rock is the immediate past chief of staff.

SCHOLARSHIP AWARDED

The Pulaski County Medical Society has awarded a scholarship to Barbara J. Clark of North Little Rock. The one-year-tuition scholarship is given annually to a freshman medical student at the University of Arkansas College of Medicine who is a resident of Pulaski County.

The scholarship this year was given in honor of Dr. W. Payton Kolb of Little Rock in recognition of his long years of service to the Society. He is a past president of both the Pulaski County and Arkansas Medical Societies.

DR. TAYLOR HONORED

Dr. Charles A. Taylor of Batesville was inducted in the Sports Hall of Fame at Arkansas College. Dr. Taylor lettered in track, baseball, and basketball at Arkansas College. He was named outstanding player in the 1938 National AAU game with Montana State and Arkansas' most valuable cage player.

DR. DUNN SPEAKS

Dr. Richard Dunn of Hot Springs presented a program on colon disorders at a local ostomy meeting.

HMO DIRECTOR NAMED

Dr. J. Roland Anderson of Sherwood has been named medical director for HealthAmerican, the first Health Maintenance Organization licensed to practice in the State.

DR. BALDRIDGE SPEAKS

Dr. John Baldridge of Jonesboro spoke on "Diabetic Ketoacidosis" at a meeting of the Northeast Arkansas EMT Association.

DRS. HICKS AND BAUMAN FELLOWS

Dr. David C. Hicks and Dr. David C. Bauman of Little Rock have been elected to Fellowships in the American College of Cardiology.

DR. JORDAN SPEAKS

Dr. Richard Jordan of North Little Rock was one of the speakers for a program on "Death and

Dying: Challenge and Change" sponsored by Griffin-Leggett and the University of Arkansas for Medical Sciences.

PHYSICIANS SERVE UNITED FUND

Dr. Richard W. Miles of Rogers has been named chairman for the professional drive of the Rogers United Fund.

Dr. Larry D. Wright, also from Rogers, has been named to the Board of Directors for the fund.

DR. TANNER ON PROGRAM

Dr. James Tanner of Little Rock was a speaker on a program for expectant mothers titled "Expectations." The program was sponsored by the American Lung Association of Arkansas and the Baptist Medical Center.

DR. LEWIS APPOINTED

Dr. Sexton Lewis of Little Rock has been appointed acting director of the newly-organized Arkansas Cardiovascular Institute. The Institute will promote study, research and teaching on cardiac care throughout the State.

DR. KENDRICK SPEAKS AT SEMINAR

Dr. John Kendrick of Springdale spoke at a "Well Woman" seminar sponsored by the North Washington County Unit (Springdale Chapter) of the American Cancer Society.

OBITUARY

DR. SWAN B. MOSS

Dr. Moss of McGehee died October 2, 1984. He was born June 18, 1912.

He was a 1940 graduate of the University of Arkansas College of Medicine. Dr. Moss had practiced medicine in McGehee until his retirement. He had served as chief of staff at St. Mary's Hospital in Dermott. He was a life member of the Arkansas Medical Society and the American Medical Association and a member of the Arkansas Academy of Family Physicians.

Dr. Moss had served as a director of First National Bank and was named "Man of the Year in 1972" by the McGehee Chamber of Commerce. He was also an elder of the First Presbyterian Church.

Dr. Moss is survived by his wife, Jean, four sons and one daughter.



NEW MEMBERS

DR. WILLIAM L. DIACON

Dr. Diacon has joined the Carroll County Medical Society. He was born in Oklahoma City, Oklahoma.

Dr. Diacon received a Bachelor of Arts degree in 1973 from the University of Kansas at Lawrence; he is a 1976 graduate of the University of Kansas School of Medicine. His internship and residency were at Wesley Medical Center in Wichita, Kansas.

Dr. Diacon specializes in Diagnostic Radiology, limited to Diagnostic Ultrasound and Computed Tomography. He is associated with hospitals in Bentonville, Rogers, Eureka Springs, Berryville and Huntsville. His office address is 604 North 13, Suite 1, in Rogers.

DR. ERNEST J. HERMANN, JR.

Dr. Hermann, a new member of the Saline County Medical Society, was born in Monroe, Louisiana.

Dr. Hermann attended Rice University in Houston, Texas, from 1962 to 1964. He received a Bachelor of Science degree in Chemistry in 1967 from Abilene Christian University, Abilene, Texas. Dr. Hermann attended Vanderbilt University School of Medicine Graduate School. He is a 1973 graduate of Meharry Medical College in Nashville. His internship was with Big Springs

State Hospital, Big Springs, Texas, and Abilene State School.

Dr. Hermann has served on the staff of Big Springs State Hospital, Abilene State School and the Starlite Village Hospital in Center Point, Texas. He has also served as part-time medical director for the C.A.R.T. Detoxification Center, now called Serenity House of Abilene, Inc.

Dr. Hermann specializes in Family Practice. He is associated with the Benton Services Center in Benton.

DR. STEVEN M. THOMPSON

Dr. Thompson, a native of Little Rock, is another new member of the Saline County Medical Society.

Dr. Thompson received a Bachelor of Arts degree from the University of Arkansas at Fayetteville in 1977. He is a 1981 graduate of the University of Arkansas College of Medicine. His Pediatric internship and residency were with Arkansas Children's Hospital in Little Rock.

Dr. Thompson has opened an office in the Benton Medical Professional Building at 1200 North Main in Benton.

* * * *

The Washington County Medical Society has three new members:

DR. GARETH ECK

Dr. Eck, a native of Muskogee, Oklahoma, received his pre-medical education at the University of Arkansas at Fayetteville. Dr. Eck is a 1979 graduate of the University of Arkansas College of Medicine.

Dr. Eck trained in General Surgery from 1979 to 1984 at Baylor University Medical Center in Dallas.

Dr. Eck specializes in General and Vascular Surgery. He is associated with Drs. Murry, Wood and Miller at 1749 North College in Fayetteville.

DR. WILLIAM V. FAIRCHILD

Dr. Fairchild was born in Inglewood, California. He received a Bachelor of Arts degree in Math in 1969 from the University of Arkansas.

Dr. Fairchild was a member of the United States Army Medical Corps from 1969 to 1984.

He was graduated in 1973 from the University of Arkansas College of Medicine. Dr. Fairchild served a Straight Surgical internship and a residency in Urology at the Brooke Army Medical Center, Fort Sam Houston, Texas. He is board certified in Urology.

Dr. Fairchild was also stationed at Fort Leonard Wood, Missouri, and Fort Carson, Colorado.

Dr. Fairchild specializes in Urology. His office is at 2101 Green Acres Road in Fayetteville.

DR. WALTER L. WRIGHT

Dr. Wright, a native of Raleigh, North Carolina, received Bachelor of Arts degrees in Chemistry and Biology from the St. Andrews Presbyterian College in Laurinburg, North Carolina, in 1971. He received a Doctor of Pharmacy in Medicinal Chemistry in 1975 from the State University of New York in Buffalo.

Dr. Wright was graduated from the University of North Carolina at Chapel Hill School of Medicine in 1980. His internship in Internal Medicine was at Shand's Hospital at the University of Florida in Gainesville. Dr. Wright served an Ophthalmology residency at the Duke University Eye Center in Durham, North Carolina.

Dr. Wright specializes in General Ophthalmology. His office is at 2039 Green Acres Road in Fayetteville.

RESOLUTIONS



DR. ROARY A. MURCHISON

WHEREAS, God in His infinite mercy has seen fit to call from our midst on the twentieth day of August 1984 Dr. Roary A. Murchison, and

WHEREAS, Dr. Murchison has faithfully served his patients in the community at large throughout his entire medical career, and

WHEREAS, Dr. Murchison, during his years of practice, has reflected the highest ideals of his profession, and

WHEREAS, in his devotion to family, church and friends, he exemplified the best in man, and

WHEREAS, the Sebastian County Medical Society mourns his loss

THEREFORE, be it resolved, the Sebastian County Medical Society, in its regular meeting on September 11, 1984, hereby adopts these Resolutions and directs that a copy be spread on the Minutes of the Society and that a copy be fur-

nished the family and that a copy be published in the Journal of the Arkansas Medical Society.

SEBASTIAN COUNTY MEDICAL SOCIETY
/s/ Annette V. Landrum, M.D., President

MRS. FRANK E. MORGAN

WHEREAS, the members of the Pulaski County Medical Society note with great pride and pleasure the signal honor that has come to our own Margaret Ann Morgan in being chosen President-Elect of the Southern Medical Association Auxiliary; and

WHEREAS, Margaret Ann has unselfishly devoted her boundless energies for many years to the betterment of our Society, its Auxiliary and the Arkansas Medical Society Auxiliary; and

WHEREAS, those responsible for her election to this position of great distinction are to be congratulated for their unequaled good judgement in choosing a winner.

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted by the membership of the Pulaski County Medical Society; and

THAT, presentation of this resolution be made to Margaret Ann at the 1984 Annual Meeting of the Southern Medical Association; and

THAT, it be made a part of the permanent archives of this Society.

ADOPTED UNANIMOUSLY
Membership Meeting, October 2, 1984
Pulaski County Medical Society
/s/ Harold D. Purdy, M.D., President

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

Obstetrics-Gynecology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.

Pathology Conference, second Thursday, 3:00 p.m., Conference Room.

Peer Exchange, December: "Infectious Diseases".

JONESBORO — AHEC-NORTHEAST

Weekly Medical Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.

Interesting Case Conference, second Tuesday and fifth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.

Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL
Child Neurology Conference, first Monday, 8:00 a.m., Second Floor Classroom.
Pediatric Radiology Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Primary Care Seminar, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER
Surgery Conference, each Monday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY
Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Classroom 3, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Gynecology Conference, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Hospital.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Classroom 1, Education Wing.
Neuropathology Conference, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S1174K, Laboratory.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.

PINE BLUFF — AHEC
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.



REPORT OF THE FALL BOARD MEETING

The Auxiliary Board met on September 11, 1984, in Little Rock. Minutes of the Post Convention Board meeting were approved as read.

Treasurer's report was given by Mary Jo Mizell for treasurer, Juanita Valentine:

Current Balance for GENERAL FUND	$ 9,487.06
Current Balance for W. R. BROOKSHER LOAN FUND	$ 682.22
Current Balance for MARTHA HARDING GANN MEMORIAL FUND	$ 4,847.00
Current Balance for ILSE F. OATES STUDENT LOAN FUND	$ 2,453.45
TOTAL ASSETS	$17,469.73

President-elect Ginny Blaylock reported on Membership. The thrust this year incorporated the president's slogan and cookbook title, "The Best of Everything." A brochure, with a removable reply card, was developed to describe how the Auxiliary provides the best for its members. The brochures will be given to the county presidents for distribution in an effort to increase membership. A research to find potential growth areas shows that the greatest potential is in the unorganized counties. A workshop was held in West Memphis for members in the Northeast District. Information was given on scoliosis, membership and MedVote. Each county was asked to set a membership goal of enrolling all eligible physician spouses.

Vice-presidents from the Southeast and Southwest Districts reported on activities in their respective areas.

Historian Margaret Ann Morgan requested that historical material be submitted to her. She reported that $253 was given to the Women's Historical Institute.

Other committee reports were:

AMA-ERF—Nikki Lawson presented several ideas for fundraising projects.

Bylaws Committee—Gwen Pappas reported that proposed changes are being prepared.

Martha Harding Gann Loan Fund—Arleta Powers reported that students should complete one semester of school before being considered for loan funds due to high attrition in first semester.

Mr. and Mrs. W. R. Brooksher Loan Fund—Mary Jo Mizell reported that five letters were mailed for uncollected accounts. There were three responses: one paid in full, one sent $40, one asked for an extension due to hardship. The other two accounts have been referred to the attorney for further action. Authority was given to the loan fund chairman to waive the requirement to have two Arkansas property owners co-sign a note for a student who could not meet this requirement. The need to update the loan fund requirements was discussed by Gwen Pappas.

Communication—Willie Oates reported on the Shuffield Layman Award given by the Medical Society to a nonphysician for outstanding contributions to the medical field. She also reported on efforts to recruit future Medical Society members; interns and residents are treated to a night out. Efforts are being made to develop files on people who can present programs or information on radio and television. Name tags were distributed for Auxiliary members to wear when doing community service.

Legislation—Cynthia Weber reported on Project MedVote. She reported that 40% of physicians and their families are not registered to vote; county auxiliaries were urged to work on Project MedVote.

ARKPAC—Judy McDonald discussed a possible seminar focused on candidates rather than legislation and an ARKPAC proposal that an Auxilian attend the Texas PAC meeting to gain ideas. The Board voted to request that the Auxiliary president be authorized to appoint one of the Auxiliary members serving on the ARKPAC Board to attend the TexPAC meeting.

Members-at-Large—Barbara Lowery reported that letters have been mailed to recruit new members.

Ark-MAP—Bonnie Peeples, editor, asked that anyone not receiving the newsletter to call and report it.

Scoliosis—Gypsy Steele reported on goals set

for year: continue to educate public through news media and lectures of need for screening; obtain exhibit space at Medical Society Convention in Hot Springs; have 50% of counties participating in screening program by end of 1984-85; improve the health of the people of the State and to improve public relations.

BELTMAN Project—Carolyn Chaote encouraged use of car seats for children.

Prenatal-Infant, Teenage Pregnancy—Joann Cornell is returning to school and has resigned as chairman; another chairman will be appointed.

Cookbook Committee—Bridget Kincheloe reported on availability of cookbooks. She requested that money collected be mailed to Post Office Box 475, Hot Springs. The balance in the cookbook account is now $2,526.36.

Nominating Committee—Joann Cornell requested that names be submitted for next year's officers.

Long Range Planning Committee—Virginia Kutait reported that her committee will meet soon.

Convention Committee—Mary Ann Cupp reported that the committee will be meeting soon.

Arkansas Med-Camps—Liz Caplinger reported that a letter is scheduled for mailing soon.

Vinnie E. Garrison Award—Margaret Harris referred to an article in Ark-MAP about the award. The committee asks that projects be submitted early for judging purposes.

Reports were not given for the Berkeley Project and Resident Physician Committee.

Gwen Pappas reported that an attorney had advised that a 501(c)(6) IRS status would provide for a separate foundation for loan funds and medical projects.

The Board adopted changes in the Bylaws in regard to a Health and Education Foundation, subject to any revision required by the Internal Revenue Service.

Gwen Pappas announced that the Medical Society will build a headquarters building in Little Rock. The Auxiliary voted to request that space for an office and storage be allotted in the new building for the Auxiliary's use.

Brief reports were received from the presidents of the Bowie-Miller, Craighead-Poinsett, Crittenden, Garland, Jackson, Jefferson, Pope, and Pulaski Counties.

Chaplain Marie Smith asked that she be notified of members who have died and given information on next of kin so that she can send a sympathy card and prepare a memorial notice.

Virginia Kutait, councilor to Southern Medical Association Auxiliary, explained her role with Southern and outlined her activities for the next few months. Members were reminded of the annual meeting of the Southern Medical Society in New Orleans.



WHATEVER

[X] YOUR POLITICS

VOTE ARK-PAC

A new political party?

Hardly. The Arkansas Medical Society Political Action Committee is a voluntary non-profit, unincorporated group whose membership is open to all physicians, their spouses, and other interested people.

ARK-PAC encourages its members to work actively for good government through the established political party of their choice, but ARK-PAC's material resources may be concentrated for the benefit of worthy candidates from either party, thus reinforcing our efforts toward the basic objective — electing the best possible public representation.

ARK-PAC is your opportunity to join a winning team.

The time is now! Send your dues payment. ARK-PAC achieves bigness by transforming small individual contributions, which might otherwise go unnoticed, into a concerted political force.

Voluntary political contributions for ARK-PAC and the American Medical Political Action Committee may be sent to ARK-PAC, Post Office Box 1208, Fort Smith, Arkansas 72902. Sustaining membership of $99 is suggested; other membership classifications are $65 for Family Membership (physician and spouse) and $40 for a Regular Individual membership.

YOUR ARK-PAC BOARD MEMBERS ARE:

Dr. John M. Hestir (Chairman), Post Office Drawer 512, DeWitt 72042 946-3637
Dr. Charles Rodgers (Treas.), 4202 S. University, Little Rock 72204 526-4838
Dr. John Crenshaw, 4201 Mulberry, Pine Bluff 71603 535-2200
Dr. Robert Miller, 616 Elm, Helena 72342 338-8531
Dr. Ken Lilly, 1120 Lexington, Fort Smith 72901 785-2655
Dr. James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801 968-2124
Dr. A. Samuel Koenig, 923 Lexington, Fort Smith 72901 785-1447
Dr. Milton Deneke, Post Office Box 687, West Memphis 72301 735-1170
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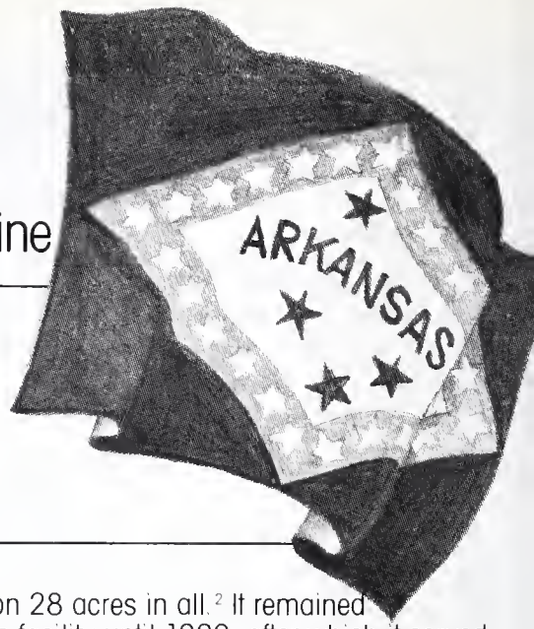
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Born at the dinner table

An important result of their collaborations and recommendations was the appropriation by the United States Congress in 1882 of funding for the first joint services hospital—the Army and Navy General Hospital at Hot Springs, Arkansas. The original proposal for this historic institution was made over dinner at the Old Palace Bath House in Hot Springs.[2]

On January 17, 1887, only one year after the city's incorporation, this pioneer facility opened to receive patients. The 80-bed hospital consisted of five separate buildings connected by verandas.[3]

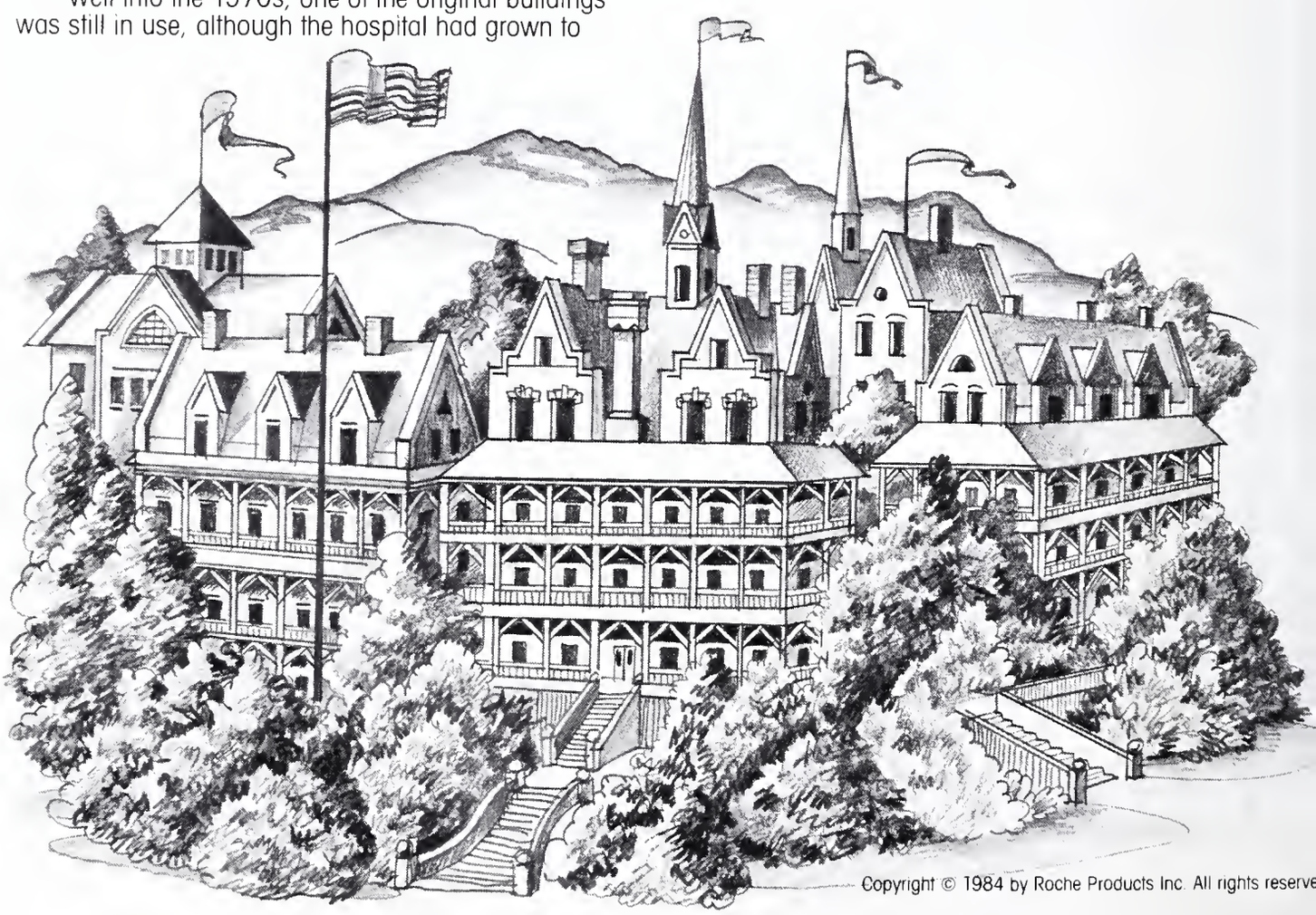
Well into the 1970s, one of the original buildings was still in use, although the hospital had grown to 59 buildings on 28 acres in all.[2] It remained a joint services facility until 1920, after which it served only Army patients and continued to do so for an additional 38 years while retaining its original name.[2]

The state gets a bargain

In April 1960 it was deeded over to the state of Arkansas for the legal sum of one dollar, and the state now runs it as the Hot Springs Rehabilitation Center, a treatment and training center serving handicapped people in the entire Southwest.[2]

However, as the first Army and Navy joint services hospital, it was the historic precursor of medical care facilities for United States military and naval personnel throughout the world.

References: 1. Hall CR. The lessons of the War Between the States, in *History of American Medicine*, edited by Marti-Ibañez F; New York, MD Publications, 1959, pp. 92-93. **2.** *The Student Echo*, Hot Springs Rehabilitation Center, Hot Springs, Arkansas, Jan. 1974, pp. 2-5. **3.** Kane JN. *Famous First Facts*, 3rd ed., New York, The H. W. Wilson Co., 1964, p. 302.



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References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, edited by Jorvik ME; New York, Appleton-Century-Crofts, 1977, p. 316. **2.** Feighner JP *et al*: *Psychopharmacology 61*:217-229, Mor 1979 **3.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

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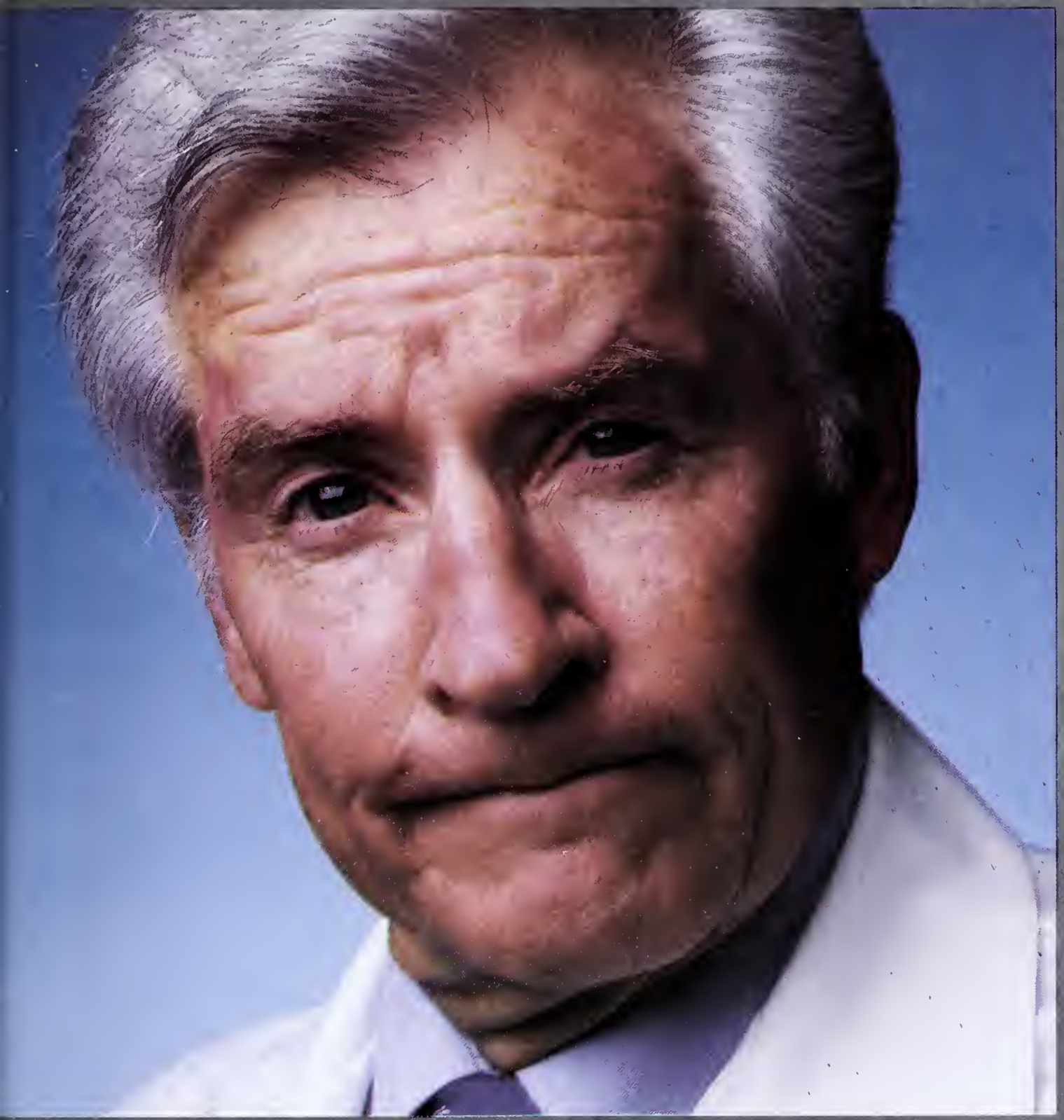
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New study reveals no interaction betwee



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In a study evaluating the influence of propoxyphene coadministration on the pharmacokinetics of the oxidatively metabolized benzodiazepines Xanax® (alprazolam) C and Valium® (diazepam) C, and a benzodiazepine metabolized by conjugation, Ativan® (lorazepam), the following results were reported:

with Xanax, propoxyphene caused a large and highly significant prolongation of half-life and impairment of total metabolic clearance.[1]

in the case of Valium, propoxyphene produced a small but not statistically significant impairment of clearance.[1]

propoxyphene had no apparent effect on the distribution, half-life or clearance of Ativan.[1]

In this randomized crossover study, eight healthy male and female volunteers received single oral doses of alprazolam (1 mg), six received single IV doses of diazepam (10 mg), and five received single IV doses of lorazepam (2 mg), once in a drug-free control state and again during coadministration of propoxyphene (65 mg q6h). Consistent with previous findings, this study evidences that Ativan does not interact with drugs that undergo oxidative metabolism.[2-5] In contrast to most other benzodiazepines, Ativan does not compete for the cytochrome P-450 enzyme system.

The clinical implications of the pharmacokinetic interaction, or non-interaction, of propoxyphene with benzodiazepines are not established by this study. Even without a pharmacokinetic interaction, propoxyphene and benzodiazepines share central depressant properties and therefore should be coadministered with suitable caution. A concurrent pharmacokinetic interaction indicates a need for even further caution. Coadministration of propoxyphene and alprazolam, for example, would produce not only the expected pharmacodynamic interaction, but also whatever additional central depressant effect would be produced by the elevated steady-state plasma concentrations of alprazolam due to its impaired clearance.

Caution should also be observed when propoxyphene is prescribed for patients who use alcohol to excess.

References

1. Abernethy DR, Greenblatt DJ, Shader RI. Data on file, Wyeth Laboratories.
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Ativan® for (lorazepam) ℞ Anxiety

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DISTINCTIVE DESIGN 0.5, 1.0 and 2.0 mg

Brief Summary of Prescribing Information.

Indications and Usage: Management of anxiety disorders or short-term relief of symptoms of anxiety or anxiety associated with depressive symptoms. Anxiety or tension associated with stress of everyday life usually does not require treatment with an anxiolytic.

Effectiveness in long-term use, i.e., more than 4 months, has not been assessed by systematic clinical studies. Reassess periodically usefulness of the drug for the individual patient.

Contraindications: Known sensitivity to benzodiazepines or acute narrow-angle glaucoma.

Warnings: Not recommended in primary depressive disorders or psychoses. As with all CNS-acting drugs, warn patients not to operate machinery or motor vehicles, and of diminished tolerance for alcohol and other CNS depressants.

Physical and Psychological Dependence: Withdrawal symptoms like those noted with barbiturates and alcohol have occurred following abrupt discontinuance of benzodiazepines (including convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Addiction-prone individuals, e.g. drug addicts and alcoholics, should be under careful surveillance when on benzodiazepines because of their predisposition to habituation and dependence. Withdrawal symptoms have also been reported following abrupt discontinuance of benzodiazepines taken continuously at therapeutic levels for several months.

Precautions: In depression accompanying anxiety, consider possibility for suicide.

For elderly or debilitated patients, initial daily dosage should not exceed 2mg to avoid oversedation. Terminate dosage gradually since abrupt withdrawal of any antianxiety agent may result in symptoms like those being treated: anxiety, agitation, irritability, tension, insomnia and occasional convulsions. Observe usual precautions with impaired renal or hepatic function. Where gastrointestinal or cardiovascular disorders coexist with anxiety, note that lorazepam has not been shown of significant benefit in treating gastrointestinal or cardiovascular component. Esophageal dilation occurred in rats treated with lorazepam for more than 1 year at 6mg/kg/day. No effect dose was 1.25mg/kg/day (about 6 times maximum human therapeutic dose of 10mg/day). Effect was reversible only when treatment was withdrawn within 2 months of first observation. Clinical significance is unknown; but use of lorazepam for prolonged periods and in geriatrics requires caution and frequent monitoring for symptoms of upper G.I. disease. Safety and effectiveness in children under 12 years have not been established.

ESSENTIAL LABORATORY TESTS: Some patients have developed leukopenia; some have had elevations of LDH. As with other benzodiazepines, periodic blood counts and liver function tests are recommended during long-term therapy.

CLINICALLY SIGNIFICANT DRUG INTERACTIONS: Benzodiazepines produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

CARCINOGENESIS AND MUTAGENESIS: No evidence of carcinogenic potential emerged in rats during an 18-month study. No studies regarding mutagenesis have been performed.

PREGNANCY: Reproductive studies were performed in mice, rats, and 2 strains of rabbits. Occasional anomalies (reduction of tarsals, tibia, metatarsals, malrotated limbs, gastroschisis, malformed skull and microphthalmia) were seen in drug-treated rabbits without relationship to dosage. Although all these anomalies were not present in the concurrent control group, they have been reported to occur randomly in historical controls. At 40mg/kg and higher, there was evidence of fetal resorption and increased fetal loss in rabbits which was not seen at lower doses. Clinical significance of these findings is not known. However, increased risk of congenital malformations associated with use of minor tranquilizers (chlordiazepoxide, diazepam and meprobamate) during first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, use of lorazepam during this period should almost always be avoided. Possibility that a woman of child-bearing potential may be pregnant at institution of therapy should be considered. Advise patients if they become pregnant to communicate with their physician about desirability of discontinuing the drug. In humans, blood levels from umbilical cord blood indicate placental transfer of lorazepam and its glucuronide.

NURSING MOTHERS: It is not known if oral lorazepam is excreted in human milk like other benzodiazepines. As a general rule, nursing should not be undertaken while on a drug since many drugs are excreted in milk.

Adverse Reactions, if they occur, are usually observed at beginning of therapy and generally disappear on continued medication or on decreasing dose. In a sample of about 3,500 anxious patients, most frequent adverse reaction is sedation (15.9%), followed by dizziness (6.9%), weakness (4.2%) and unsteadiness (3.4%). Less frequent are disorientation, depression, nausea, change in appetite, headache, sleep disturbance, agitation, dermatological symptoms, eye function disturbance, various gastrointestinal symptoms and autonomic manifestations. Incidence of sedation and unsteadiness increased with age. Small decreases in blood pressure have been noted but are not clinically significant, probably being related to relief of anxiety.

Transient amnesia or memory impairment has been reported in association with the use of benzodiazepines.

Overdosage: In management of overdosage with any drug, bear in mind multiple agents may have been taken. Manifestations of overdosage include somnolence, confusion and coma. Induce vomiting and/or undertake gastric lavage followed by general supportive care, monitoring vital signs and close observation. Hypotension, though unlikely, usually may be controlled with Levarterenol Bitartrate Injection U.S.P. Usefulness of dialysis has not been determined.

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Anxiety

DOSAGE: Individualize for maximum beneficial effects. Increase dose gradually when needed, giving higher evening dose before increasing daytime doses. Anxiety, usually 2-3mg/day given b.i.d. or t.i.d.; dosage may vary from 1 to 10mg/day in divided doses. For elderly or debilitated, initially 1-2mg/day; insomnia due to anxiety or transient situational stress, 2-4mg h.s.

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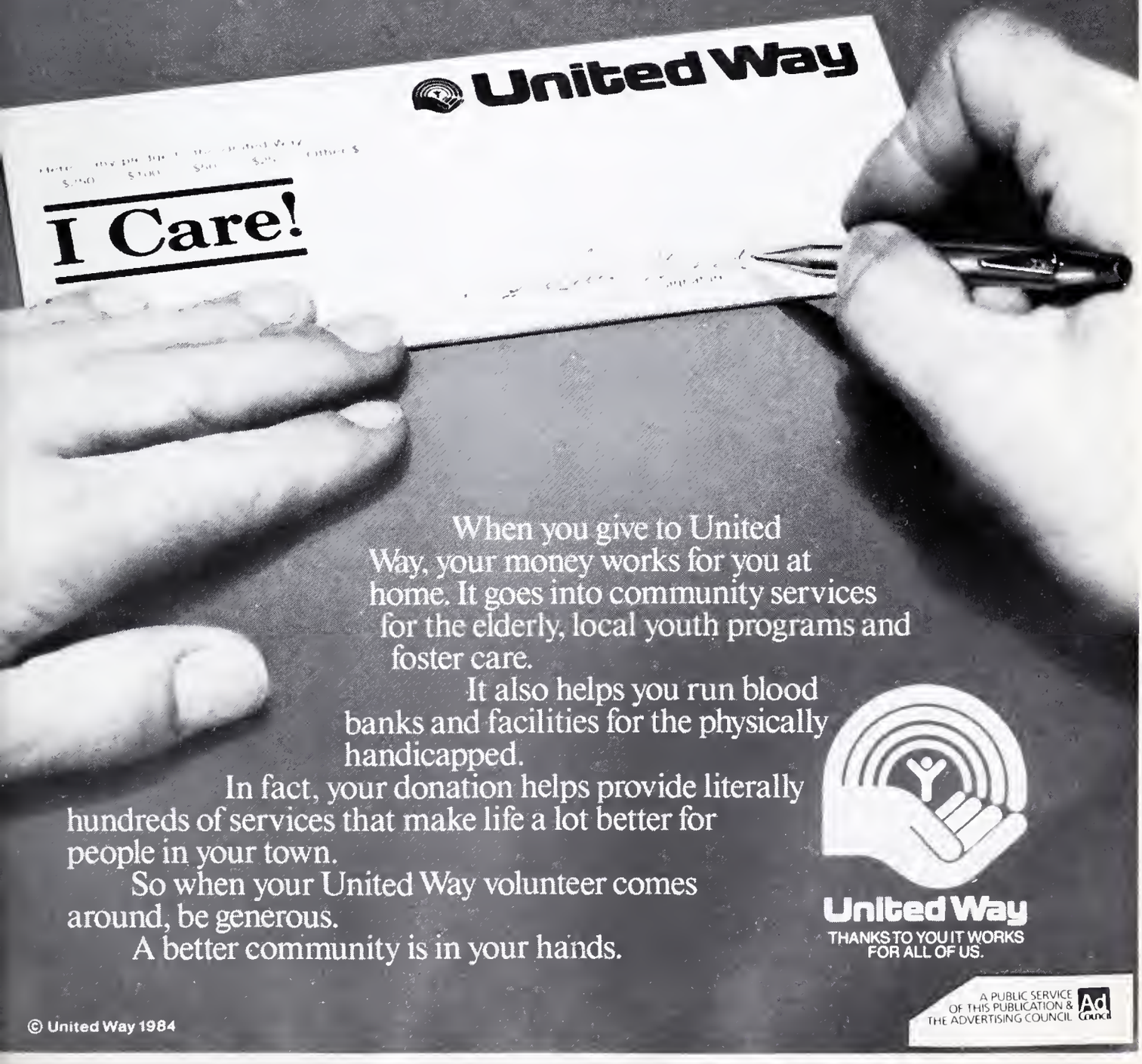
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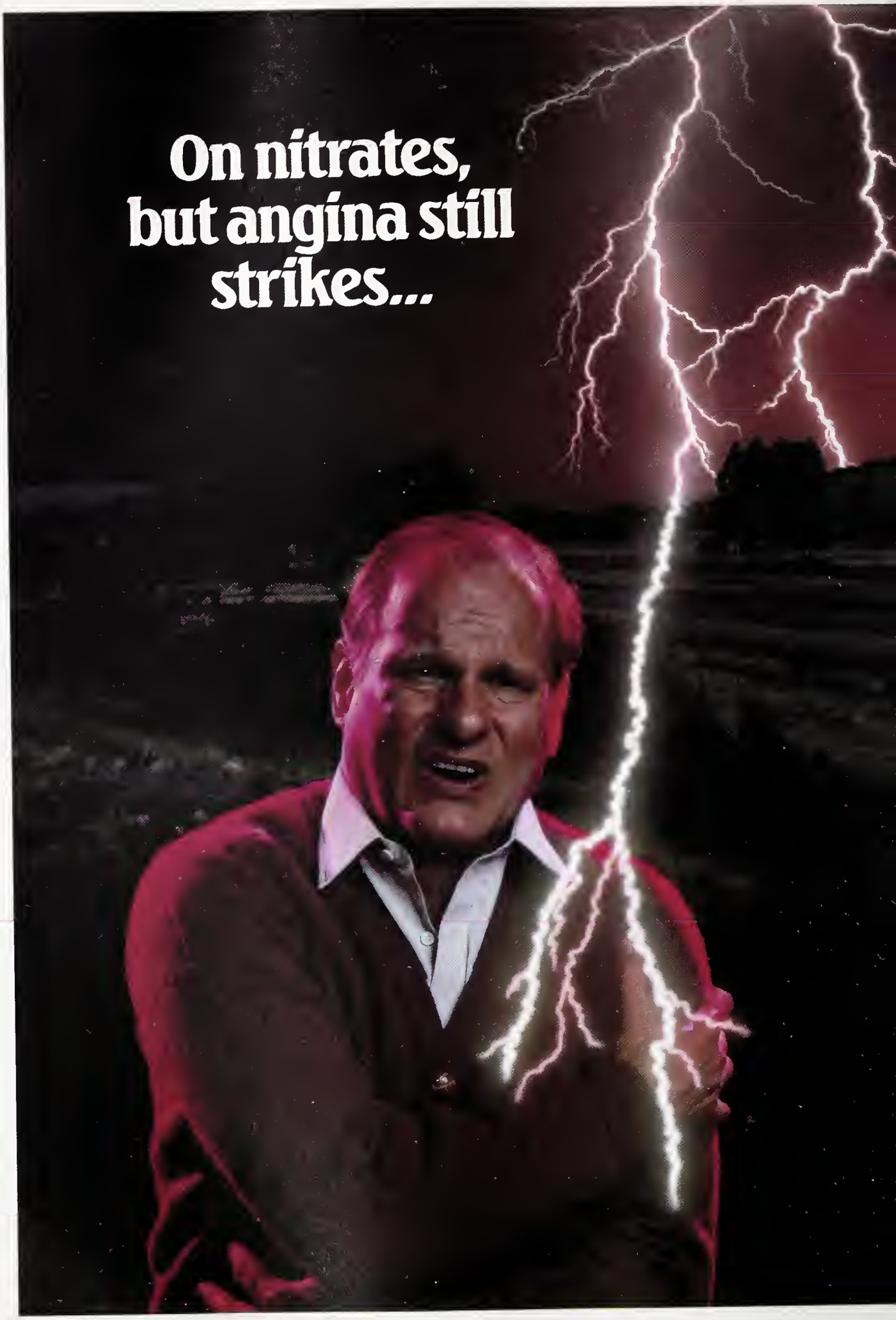
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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and/or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C*: There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR<50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

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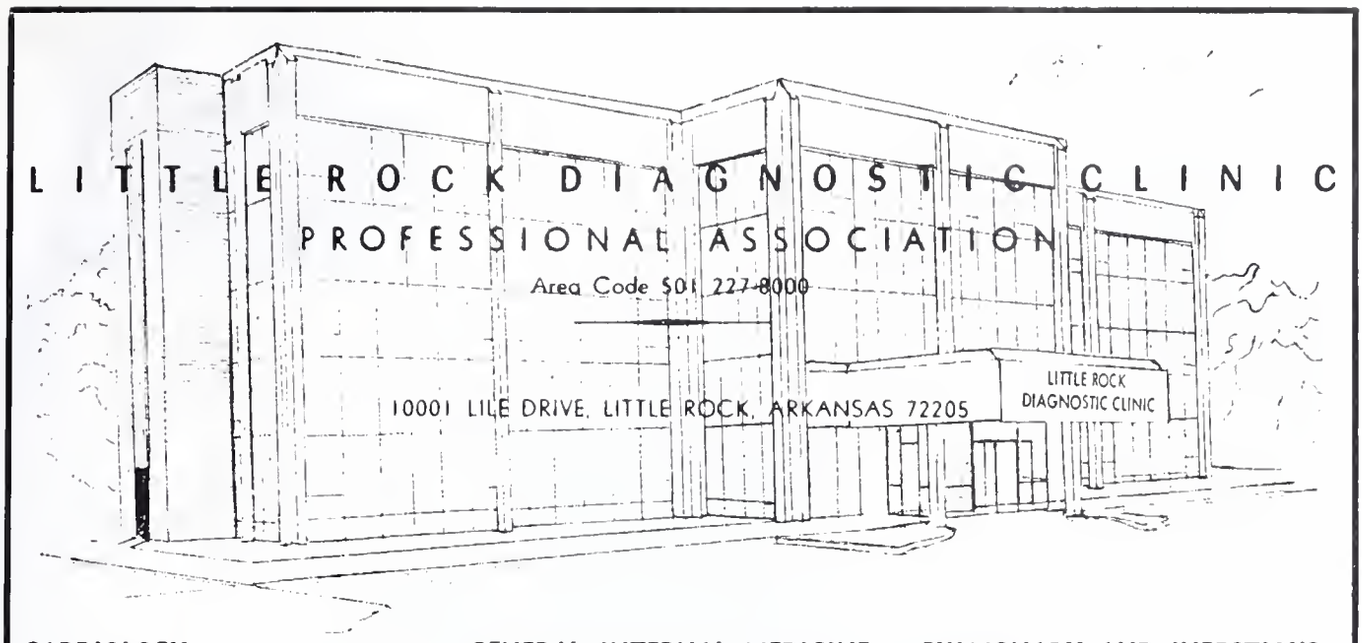
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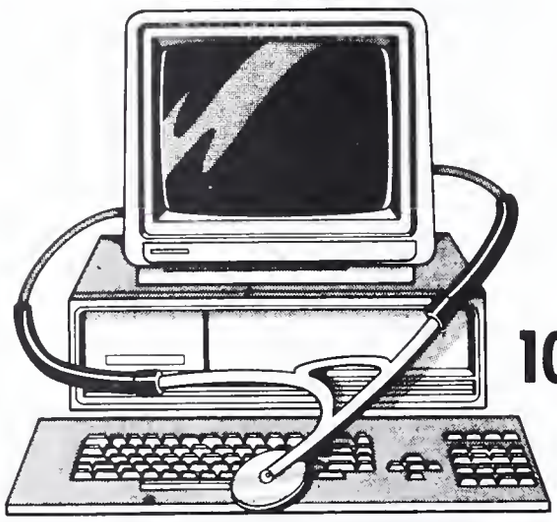
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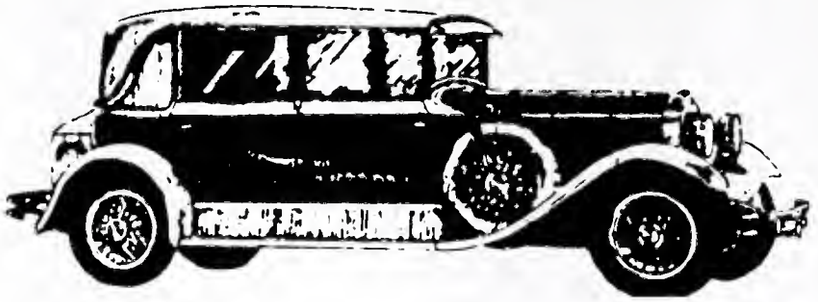
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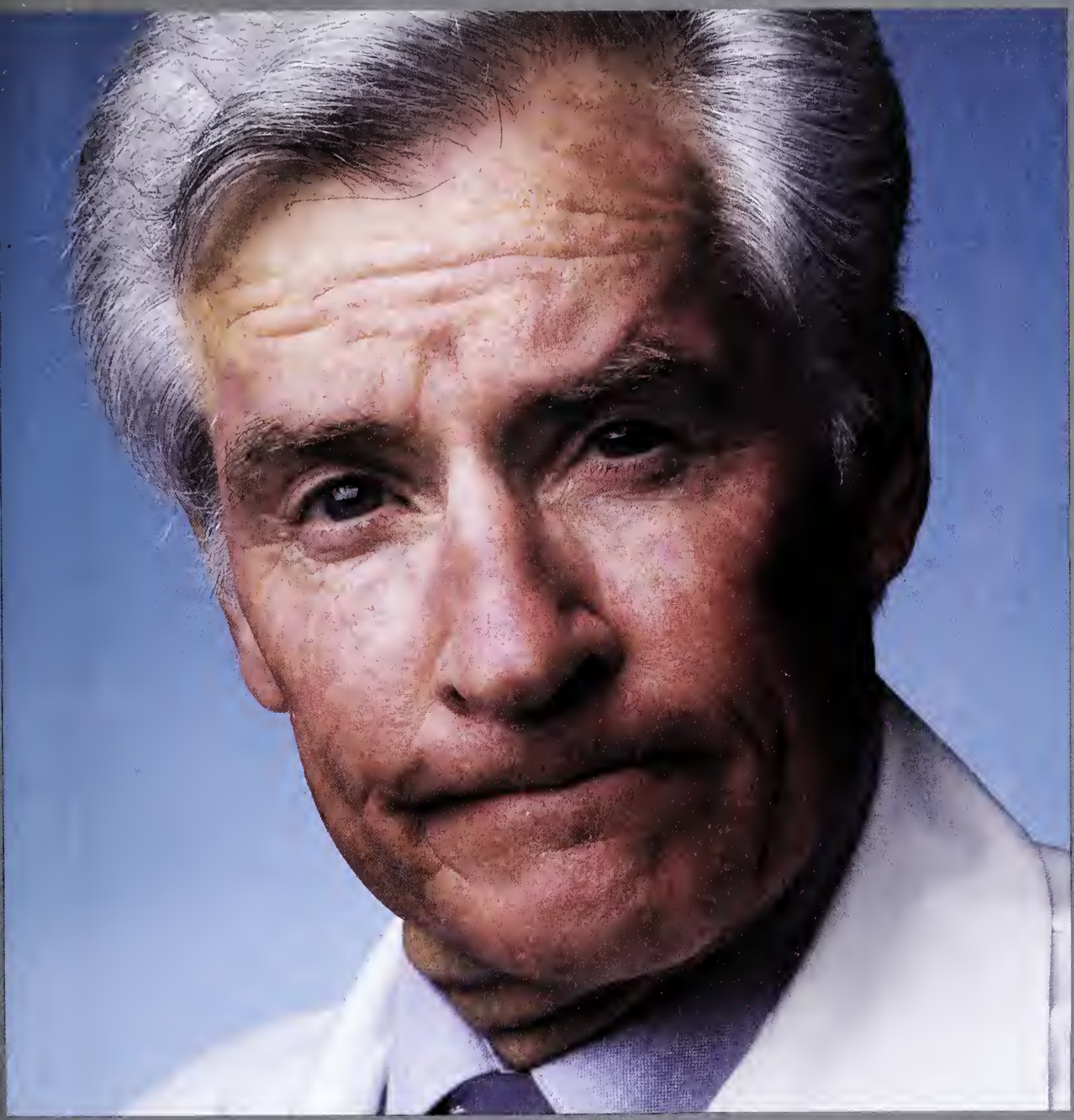
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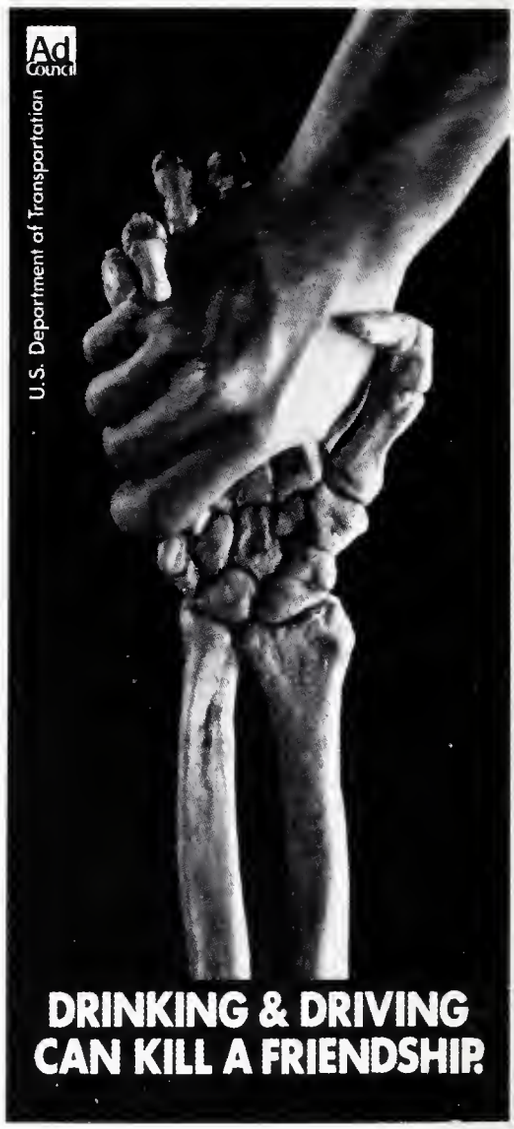
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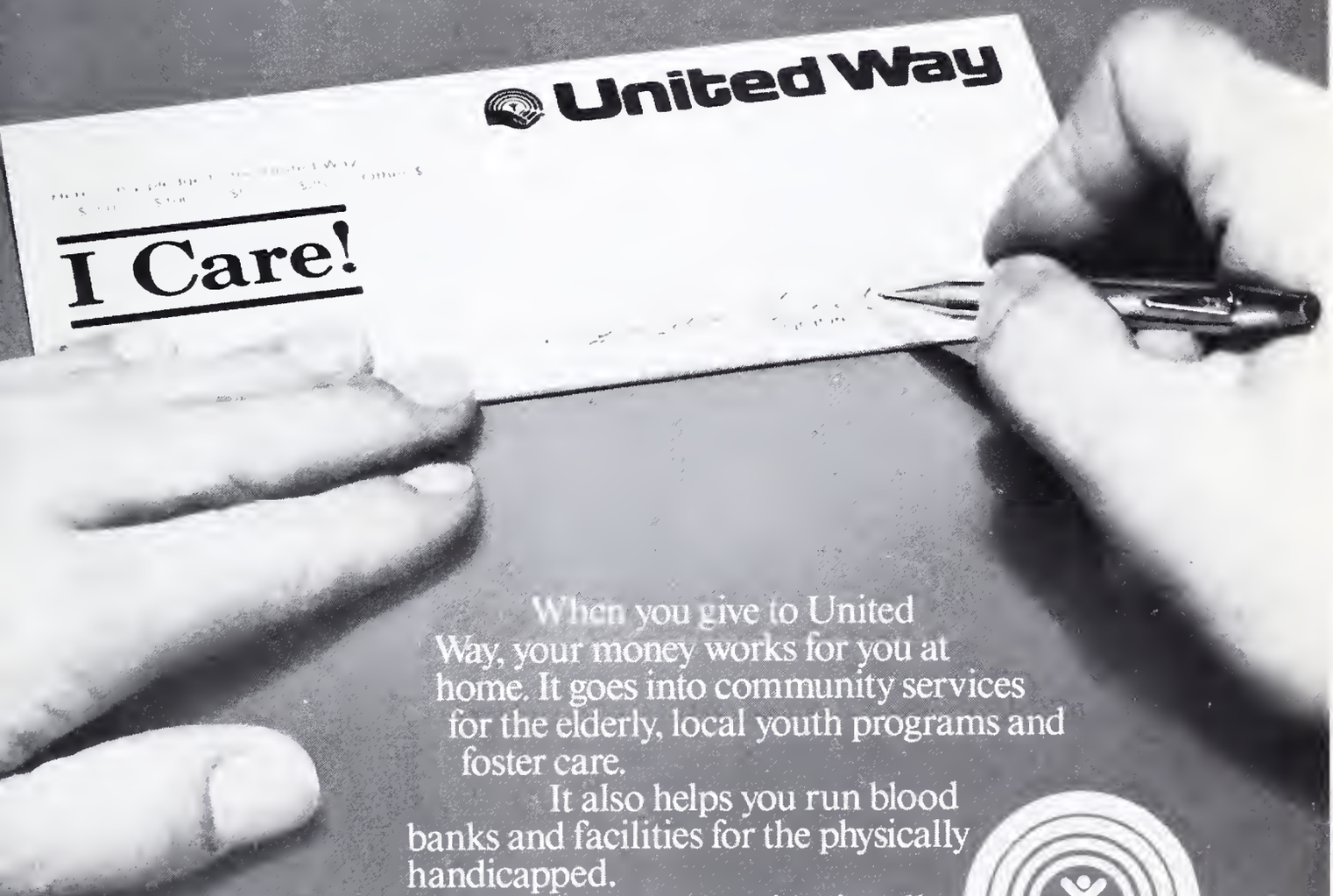
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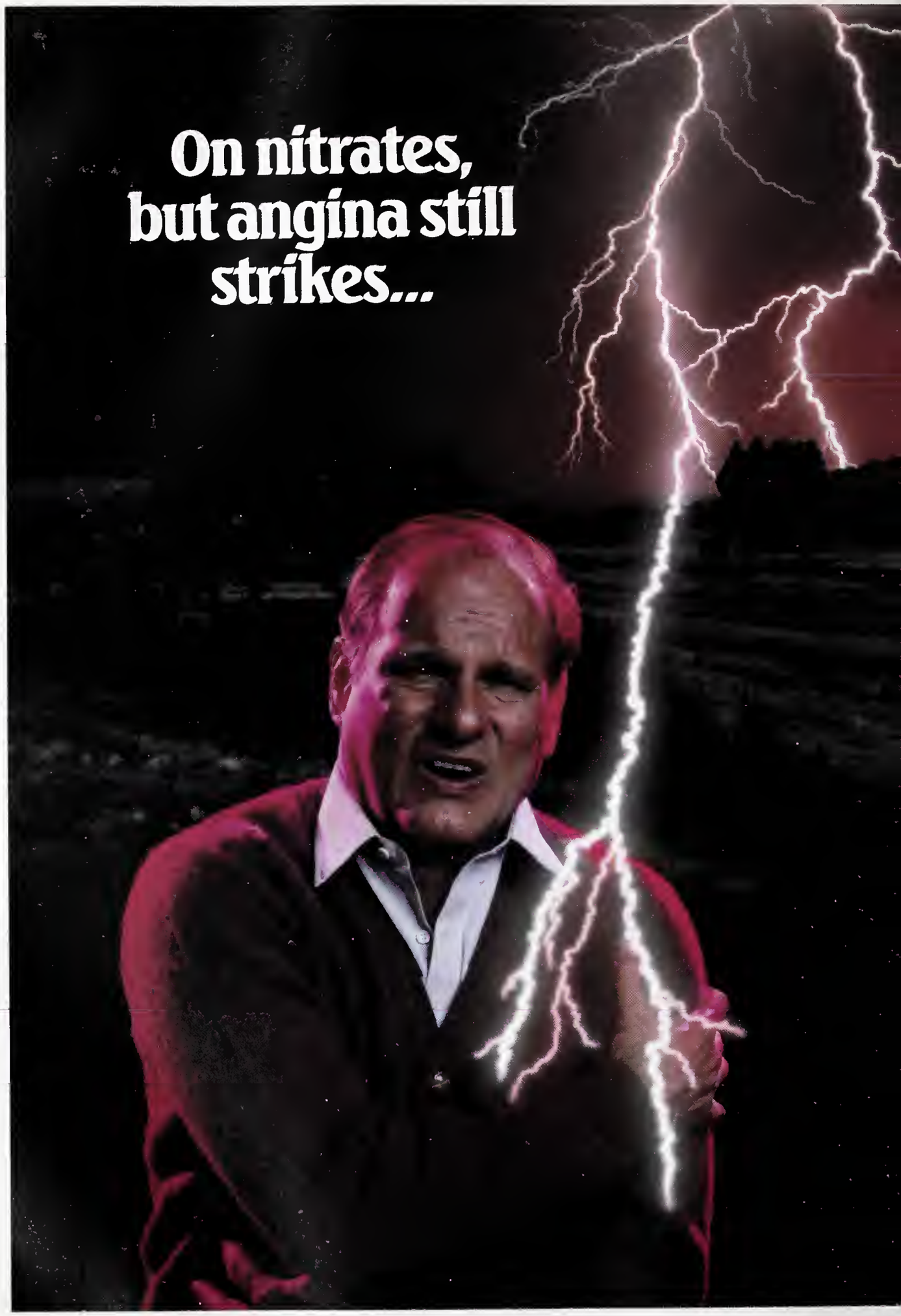
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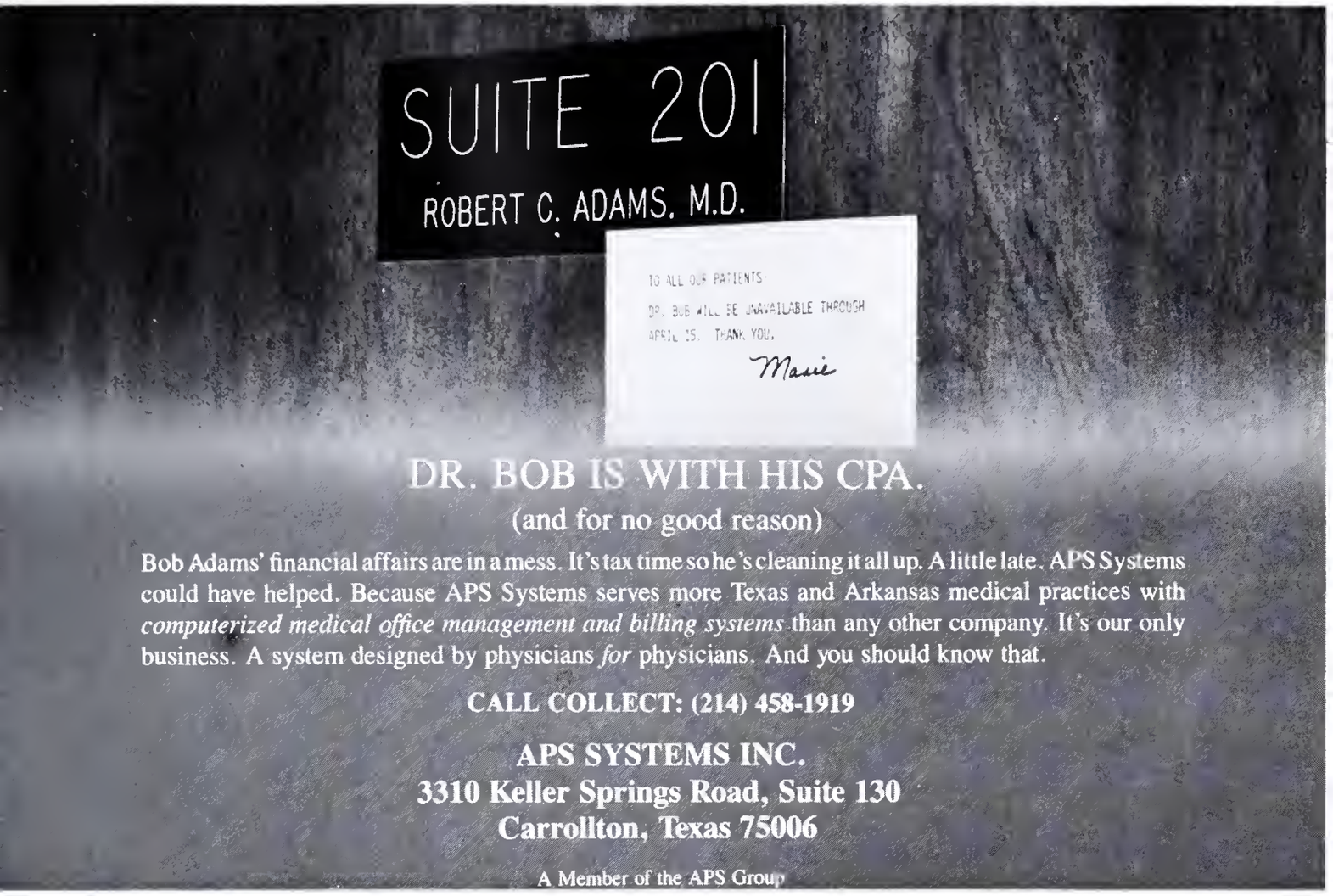
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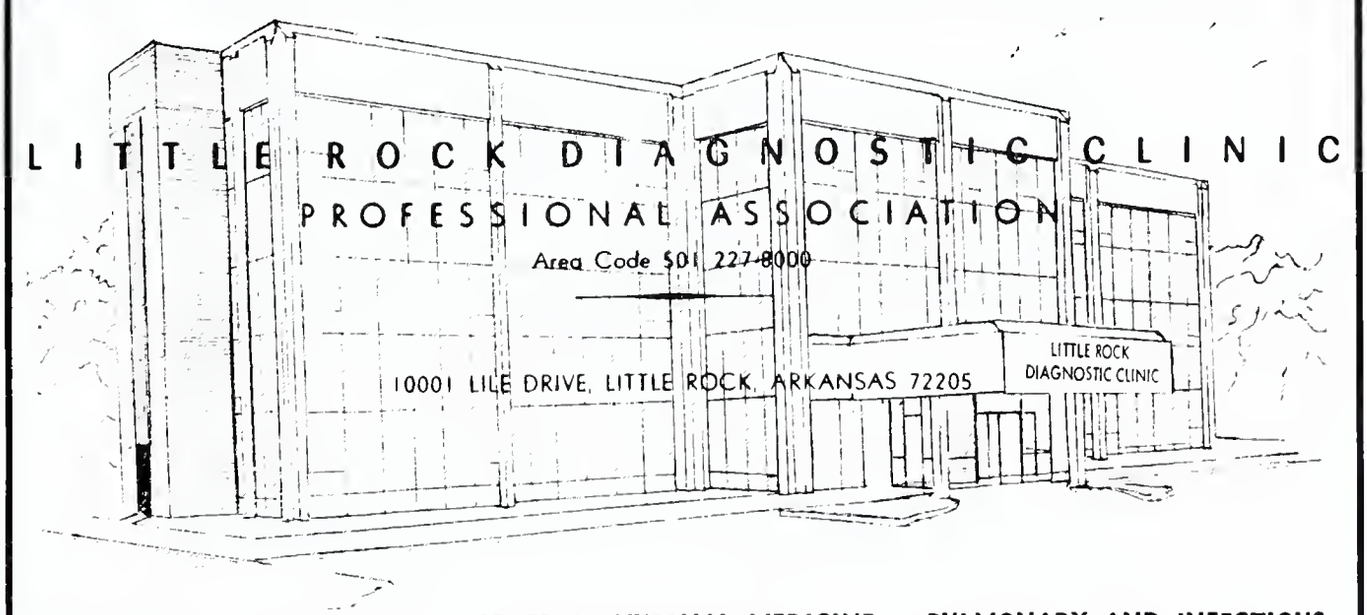
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Yersinia Enterocolitica Infection-Vagaries

Gilbert Dean, M.D.*

On June 26, 1982, and again on July 6, 1982, a patient was referred to me with what in each case appeared to be acute appendicitis. The first patient, a 57-year-old black female, had had a preceding rather benign type of diarrhea followed by persistent right lower abdominal pain, right lower quadrant tenderness, a temperature of 100 degrees F. and an elevated white blood count (12,000). There was a palpable tender orange-sized mass in the right lower abdomen. She stated that her appendix had not been removed at the time of an abdominal hysterectomy many years before. A diagnosis of acute appendicitis with possible appendiceal abscess was made.

The second patient on July 6 was a 57-year-old white male who had suffered a gradually increasing right lower abdominal pain for 5 days, an associated nausea, but no vomiting, temperature 99.8 degrees F. and elevated white blood count. He had been having daily bowel movements usually associated with the feeling that he wanted to pass additional gas and feces, but couldn't. There was marked right lower quadrant tenderness with muscle guarding and rebound tenderness. No abdominal mass was noted. He had undergone coronary bypass surgery previously but no abdominal surgery.

At the time of surgery the gross pathologic findings were similar; neither patient had acute appendicitis (the female patient had had a previous appendectomy). In each case there was a marked inflammatory reaction involving the lower ascending colon, cecum, and terminal ileum. A large mass seemingly involving the medial aspect of the lower ascending colon, and giving the appearance of a rupturing diverticulum or carcinantous mass, was also present. The mass in each case was so definite that I elected to perform a right colon resection in order to obtain a cure.

The microscopic pathologic studies revealed marked mucosal inflammation in the terminal ileum, cecum and colon with some areas of ulceration. The adjoining mass contained a mass of adipose tissue surrounding a central lymph node with extensive necrosis and multiple small abscess formations. Cultures of the inflammed tissues at the time of surgery revealed no specific etiologic factors in the female patient; but a stool culture on the male patient revealed yersinia enterolitica a few days after surgery. The yersinia organisms were noted to be susceptible to cefoxitin, cefamandole, amikin, gentamicin, tobramycin, tetracycline, kanamycin, colistin and chloramphenicol.

During the surgery on the female patient, troublesome bleeding from a torn friable superior mesenteric vein necessitated several additional surgical procedures that delayed her eventual complete recovery. The male (second) patient had an uneventful post operative course after receiving intravenous cefoxitin and later oral tetracycline for several days.

The above described signs symptoms and findings in these two patients has stimulated me to compile the following data on yersiniosis.

Bergey's Manual (Ed. 8) classifies Yersinia as Genus X1 under the family Enterobacteriaceae which includes other enterocolic pathologens such as Escherichia, Salmonella, Shigella, Klebsiella, Proteus, Enterobacter, Serratia, Erwinia, Citrobacter and Edwardsiella. The species under the genus Yersinia include Yersinia (formerly pasteurella) Pestis, Yersinia enterocolitica and yersinia pseudotuberculosis. Y enterocolitica and Y pseudotuberculosis exhibit similar characteristics that can be distinguished by biochemical laboratory reactions.

Yersenia enterocolitica is a common inhabitant of the intestinal tract of such animals as pigs, dogs and cats; but it has been casually related to an enterocolitis syndrome in man only since the early 1970's.[1] The 1983 update of Harrisons Principles of Internal Medicine[2] states that yersinia enterocolitica causes a more varied clinical illness than that caused by other invasive entero-pathogens. A watery diarrhea is produced in infants and

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young children and is accompanied by abdominal pain and fever which may persist for as long as two weeks. Less than 50% have blood in the stools. The most common symptom in older children and adults, however, is right lower quadrant abdominal pain usually with fever and leukocytosis. Rarely is diarrhea present. The clinical picture is often indistinguishable from acute appendicitis.

Yersiniosis is most often reported as infecting young children (milk drinkers) primarily and in the colder climates such as in the Scandinavian countries. Transmission may occur through contact with infected animals or contaminated food or water; and person-to-person hand-to-mouth transmission is a possibility.

In spite of surveillance for this organism the role of yersinia enterocolitica had not been documented in the Southern United States until an outbreak of yersiniosis during June to August 1982,[3] supposedly originating from one "batch" of contaminated milk, the outbreak was thought by the emiologists[3,7] to have resulted in some degree of infection in possibly more than 2,000 persons in Arkansas, Tennessee and Mississippi. The excellent studies of J. P. Norain and colleagues in the Department of Health[3,7] documented 67 cases of yersenia enterocolitica infection in Arkansas from June 10 to July 26, 1982. Their dermographic data included: 1. Male (female) (54%/46%); 2. Age distribution (1) Yr. 18.6%, 1-4 Yrs. 33.8%, 5-9 Yrs. 9.2%, 10-14 Yrs. 13.8%, 15 Yrs. 24.6%; 3. Patients undergoing appendectomy (8/67) with 7/8 under 15 years of age: Median age of total = 3 years and of appendectomies — 10.5 yrs. The clinical presentation was fever (95.2%), diarrhea (84.2%), abdominal pain (83%), vomiting (34.4%), rash (21.3%), bloody diarrhea (13.8%) but 0 in appendectomy cases. Yersinia was isolated from: stool (90.4%), mesenteric nodes (3.2%), appendix (7.9%), blood (4.7%), throat (1.6%). The epidemiologists concluded,[3] "clinicians, health officials and epidemiologists should be aware of the spectrum of disease of the enteric agent and its presence in the Southern United States." My two adult cases were not included in the above resume.

Several hundred cases of human infection have been identified in Europe (especially Scandinavia) and increasingly in Canada and the United States.[4,5,6] Both yersinia enterocolitica and yersinia pseudotuberculosis have been associated with diarrheal diseases, both acute and chronic, and also a usually benign and self limited form of mesenteric adenitis clinically simulating appendicitis. In a well studied group of patients in Scandinavia five percent of the cases diagnosed as appendicitis were found to have yersinia enterocolitica enteritis. Some cases with hepatitis have been reported.

Internists and surgeons agree that surgical removal is still the proper method of treating nearly all cases of acute appendicitis. It is also true that a right ileo-colonic resection is a radical and dangerous method of treating enterocolitis with mesenteric adenitis. Since episodes of enterocolic yersiniosis may present the syndromes of acute mesenteric lymphadenitis and appendicitis, however, it may behoove the surgeon to not delay surgery in order to avoid a more serious ruptured appendix and sequellae. Also, finding a large retrocecal or retrocolic mass that imitates a rupturing carcinoma or diverticulum may further add to the surgeons dilemma. The mass may even be palpable in the abdomen before surgery.

Perhaps a landmark of this century's achievement is man's recognition of the limited extent of his knowledge. As physicians and surgeons encounter the vagaries of enterocolic disease due to a possible thirty or more bacteriologic pathogens and several other physiologic reactions, they need to maintain a high index of suspicion about any aberrant finding or symptom that does not "jibe" with a true picture of appendicitis, carcinoma or diverticulitis.

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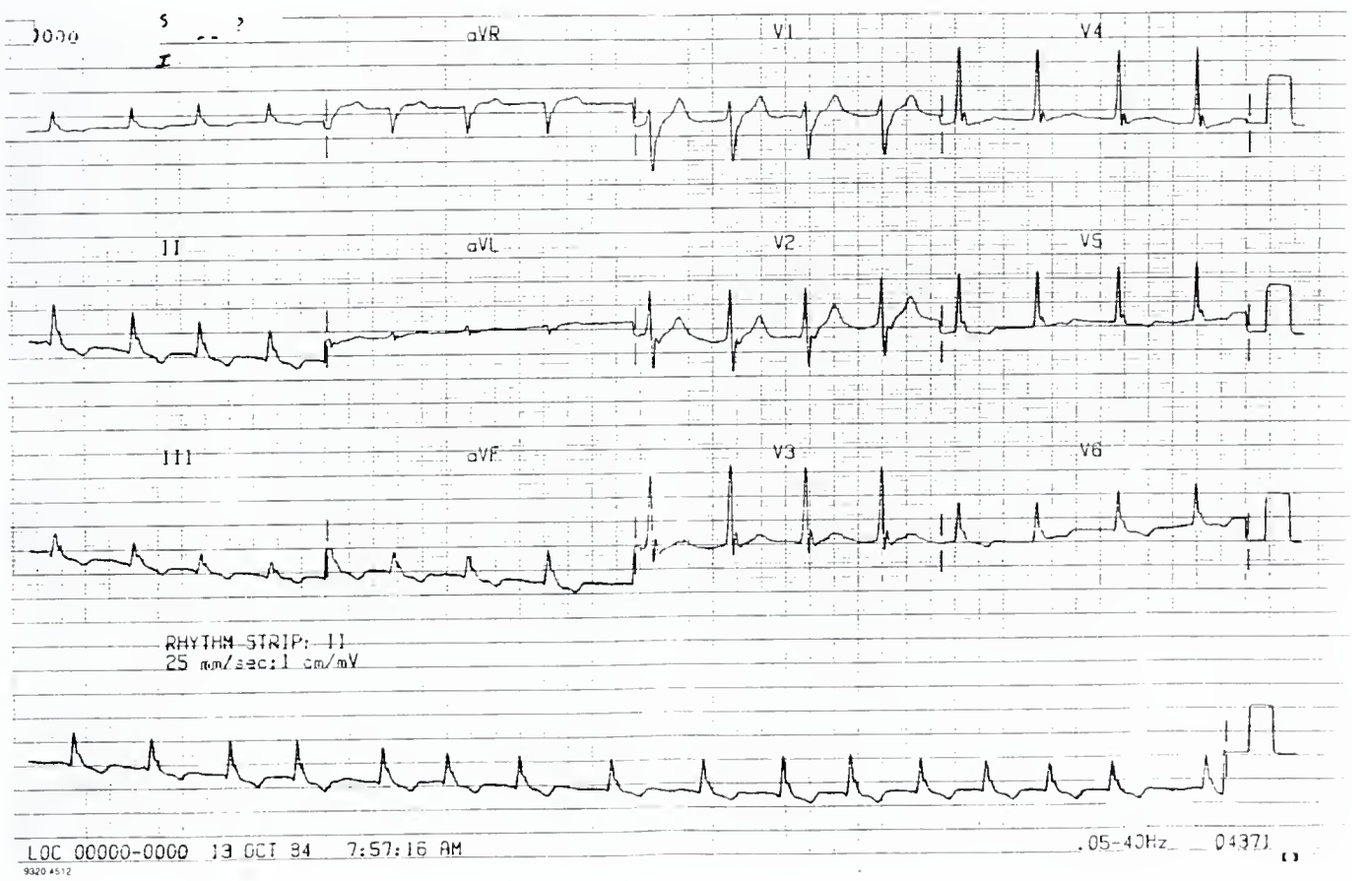
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See **Answer on Page 353**)

HISTORY: L. C. is a 66-year-old man who was found in a state of collapse in an air conditioned room. CPR was given with return of both a palpable pulse and a normal blood pressure. His rectal temperature was below 90° F. This ECG was obtained to help exclude myocardial infarction. What do you think of the trace?



Bruce Murphy, M.D., and John W. Watson, M.D.
UAMS-LRVAMC Division of Cardiology
Little Rock, Arkansas



Office Orthopaedics

Review and Update on Open Fractures

John O. Lytle, M.D.,* and Karen S. Seale, M.D.**

The incidence of open fractures in the general population is rising as we become more mechanized. Our leisure time activities and modes of transportation make us more prone to injuries. The goals of management of an open fracture are simple: restoration of optimal function to the injured part and prevention of infection. This is a review of the initial management and treatment of open fractures prior to definitive care. Presented here is a grading system to assist with an organized rational approach to open wounds, and a discussion of the current status of use of antibiotics, tetanus prophylaxis, and immobilization.

Classification of Open Fractures

Open fractures are classified to assist planning, management, and predicting prognosis.[3,5]

Grade I — This injury is a puncture wound usually from inside out, less than 1 centimeter in length, and for the most part, clean. The fracture can be a transverse, oblique, or spiral with minimal comminution. This usually occurs when the bone is forced out of the skin and then retracts. If treated promptly and properly, the infection rate of these fractures is less than one percent, and most agree that after thorough debridement, the skin that was surgically opened for debridement may be closed but the original wound should be left open.[2,3]

Grade II — These open fractures have a wound greater than 1 centimeter in length and have varying degrees of soft tissue loss, crush, flaps, or avulsion. Again the fracture is transverse, spiral, or oblique, and with minimal comminution. These wounds are of greater magnitude than grade I and for the most part should not be closed primarily.

Grade III — This open fracture has extensive soft tissue damage and loss of muscle, skin, neurovascular structures, and bone. Some special considerations that make less severe wounds treated as grade III wounds are: segmental fractures regardless of the size of the wound, farm injuries contaminated with dirt, high velocity rifle or close range shotgun wounds, wounds with neurovascular injury, traumatic amputations, open fractures greater than eight hours old, or tornado victims. With current methods of treatment in a trauma center, these wounds still have a 9% infection rate.[3] They should not be closed primarily.

Principles of Treatment

Principles of patient management with open fractures are the same as with any trauma patient. The ABC's of trauma care must be followed.[13] These are: airway with cervical spine control, breathing, and circulation. Initial assessment and resuscitation of life threatening emergencies must be attended first. After the patient is stable and when it is appropriate for the overall patient care, attention may be directed to open wounds caused by fractures. All wounds should be cultured initially, wrapped with a sterile bandage, and splinted in the emergency department.

They should be handled as an emergency and taken to the operating room as quickly as possible for formal debridement. If the patient is to be transferred to another hospital, part of the initial treatment begun before transfer including removal of grass, sticks, dirt or other debris, tetanus prophylaxis given, antibiotics started, and an adequate splint applied.

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Debridement

The mainstay of management of open fractures is adequate sharp debridement and irrigation. The wound should be debrided of all non-viable tissue. The decision of what to debride in the operating room is based on color, consistency, muscle contractility, and blood supply or capillary bleeding of the tissues. The skin and edges of the wound should be ellipsed, not "cored out." The wound should be cleaned with a pulsatile irrigator[1] and at least 10 liters of Normal Saline.[4] This removes dirt, debris, blood clots, and reduces the number of bacteria in the wound.

Wound Care

The question whether to close or leave open an open fracture remains unanswered. For the experienced trauma surgeon, it is acceptable to do primary closure on clean grade I and some grade II wounds. No grade III wound should be closed primarily.[2,3,5,11] It should be remembered that if one is unsure of the wound status the prudent thing to do, and it is never wrong, is to leave the wound open. The wound should be dressed with a full length gauze bandage placed in its depths. This aids drainage, helps control hemorrhage, assists in debridement of the wound when the dressing is removed, and insures that no dressing will be left in the wound at a dressing change. The extremity is then immobilized until further debridement at 24 to 72 hours is performed.

Antibiotics

All open fractures should be considered contaminated. Initial wound cultures showed bacterial growth in 63 to 70% of wounds.[3,9] Open fractures greater than eight hours old are considered to have colonization of bacteria and this changes the classification of the wound.[3] There is little debate that patients with severe open fractures should receive antibiotics; however, there is debate as to the choice of antibiotic. Most agree that grade I and II wounds should be treated with a drug to cover gram-positive and some gram-negative organisms. The usual choice is either a first or second generation cephalosporin. With a grade III wound specific coverage for gram negative and clostridial species should be added to the cephalosporin for a multiple drug regimen. Thus, this drug of choice for a grade III wound would be a cephalosporin, an aminoglycoside, and a penicillin. Antibiotics are given in the emergency department at the time the wound is cultured and continued for 3 days. At that time the wound is inspected. If the wound is clean and can be closed, the antibiotics are discontinued. The antibiotics are continued if further debridement is needed, if the wound is not ready for closure, or if the wound is infected. The selection of antibiotics is then guided by the clinical status of the wound and culture results.

Definition*	Wound Care	Antibiotics
GRADE I		
Wound 1 cm. puncture type clean Minimal or no comminution	Irrigation, debridement ellipse wound edges No primary closure*	First or second generation cephalosporins
GRADE II		
Wound with laceration greater than 1 cm. without extensive soft tissue damage, flaps, or avulsions. Minimal or no comminution.	Irrigation, debridement ellipse wound edges, remove devitalized tissue No primary closure*	First or second generation cephalosporin ± aminoglycoside
GRADE III		
Wound with extensive soft tissue damage, segmental or comminuted fracture, traumatic amputation, gun shot wounds, farm injuries, vascular injury requiring repair	Irrigation wide debridement No primary closure	First or second generation cephalosporin aminoglycoside penicillin

*From Gustilo, R. B., and Anderson, J. T.: Prevention of Infection in the Treatment of One Thousand Twenty-Five Open Fractures of Long Bones. Journal of Bone and Joint Surgery, 58A: 453, 1976.

*See page 3 Wound Care.

Tetanus

The tetanus immunization status should be obtained. Non-tetanus prone wounds (clean, grade I) should be treated with tetanus toxoid if it has been longer than five years since the last booster.[12] Patients with tetanus prone wounds with prior immunization and whose last booster was received longer than five years prior to injury should receive .5cc of tetanus toxoid. Those patients without prior immunization should also have 250 IU of human tetanus immune globulin for passive immunization.

DISCUSSION

The treatment of open fractures is improving with modern techniques and judicious use of antibiotics. Infection rates of early series are reported as high as 14 to 44%.[7,9] With expert surgical care and antibiotics this has now been reduced to 2 to 9%.[3,9] Tetanus continues to be a threat, yet with improved immunization and the availability of human immune globulin this is rare. The mainstay of therapy that has been tested, and yet sometimes forgotten, is adequate debridement of devitalized and grossly contaminated tissues. The historically bleak outlook of open fractures may continue to improve with continued advances of surgical management of wounds and improved fixation of fractures.

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Cancer Prevention and Public Health

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Recently, at a meeting of a committee of the Arkansas Division of the American Cancer Society, I became aware of a program being promoted by the American Cancer Society that related to my own work in public health. To me, the role of the public health physician is prevention of disease and public education. This fits right in with the CHECK Program of the American Cancer Society. CHECK stands for Colorectal Health Check. It deals directly with colorectal cancer and its prevention.

We all know that prevention can be defined as primary or secondary. Primary prevention is the identification and avoidance of factors detrimental to health either genetic or environmental. Secondary prevention is early detection and eradication of disease. With this in mind it is easy to see how public health can play a prominent part in fulfilling its mission and at the same time help to control a most serious illness leading to disability and death. Colorectal cancer is the second most common of the four major cancers after lung cancer. Breast and uterine cancers are the third and fourth. Each year approximately 130,000 American adults develop colorectal cancer. 60,000 people die from the disease. Yet, three out of four colorectal cancer patients can, with early detection and proper treatment, return to normal, active lives. Most of them will not need colostomies.

A comprehensive American Cancer Society Public Opinion Study has led to the formulation of plans for a major three year program against colorectal cancer.

As is the case with most health related subjects, there are many common misconceptions about colorectal cancer. It is thought that the disease occurs more often in men. Actually, it occurs slightly more often in women. The survival rate thought to be low is actually high. Over 75% can be cured if detected early. Secondary prevention applies here. We probably cannot prevent colorectal cancer, but early testing, especially of high risk groups can enable the discovery and removal of precancerous polyps which are often the beginnings of colorectal cancer. The idea that colostomies are always necessary is false. 85% of all rectal cancer patients and practically all colon cancer patients do not need a colostomy if diagnosed at the earliest stages. Besides, very few colostomies are permanent.

98% of all colorectal cancers are found in adults age 40 and over. Yet the three recommended early detection tests are not always part of a regular health checkup. The tests are 1) the digital rectal exam; 2) the stool blood test; and 3) proctosigmoidoscopy. Of interest is the fact that the American Cancer Society study demonstrated that the public wants to know more about the disease and what to do about it. It showed that an expanding public education effort is necessary and that if done effectively, could save many thousands of lives. The public isn't as squeamish about receiving facts on colorectal cancer and its related tests as once thought.

The American Cancer Society has mounted a three year program dealing with public education, professional education and public information. It has commissioned the Gallup Organization to carry out studies and measurements of progress. The people will be asked if their doctor has ever advised a stool blood test or a proctoscopic examination. They will be asked if their doctor has asked to exam the bowel, colon or rectum. Has their physician attempted to allay misconceptions about the colorectal examination and outcome?

An attempt will be made to familiarize all family practitioners and other primary care practitioners with the goals and plans of CHECK. Guidelines will be provided for colorectal cancer detection. The media will be stimulated to de-

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velop comprehensive features on colorectal cancer in each of the top 250 metropolitan market population areas in this country during each of the three years of the program. So one can easily see how important it is that the family doctor be prepared.

As mentioned earlier, 98% of all colorectal cancer patients are age 40 and over. 93% are over age 50. Thus, those over 50 years of age will be targeted. They will be advised at their next health checkup to ask their physician for the three colorectal cancer early detection tests: the digital rectal exam, the stool blood test and the procto. Physicians will be convinced that including early detection tests for colorectal cancer as part of the regular health checkup for their patients 50 years and over, will save lives.

Most certainly the public will be made aware of the importance of the colorectal examination. Stool blood tests will be an important first step. Physicians should offer this test for patients over 50 years of age. They should remind their patients that it is a test simply to find blood in the stool and could mean a number of other things than cancer, including hemorrhoids, ulcerative conditions or bleeding of the gums. The American Cancer Society is urging a one-to-one relationship between the physician and the patient. Its task will simply be to promote awareness of what can be done. The physician should be convinced of the efficacy of the stool blood test. Many physicians will wish to become trained in the use of the flexible fiberoptic-proctosigmoidoscope. Others will prefer to refer their patients to those doctors who are able to perform this vital task. Of course, the digital rectal examination is a most important part of any physical exam and can be easily performed and usually is. Of interest is the fact that more than half of adults over 40 years of age have an annual health checkup in the United States. This means that these patients could be given colorectal cancer detection tests if their physicians provide them as part of the health checkup.

A few figures are often helpful in speaking to the patient. When colorectal cancer is detected and treated in an early stage confined to the bowel wall, the national average five year survival rate is 76% for colon cancer and 73% for rectal cancer. The digital rectal exam is recommended annually at age 40 and over; the test for hidden blood in the stool should be done every year beginning at age 50. After age 50 following two annual examinations with normal results proctosigmoidoscopy should be done every three to five years.

From the standpoint of epidemiology, numerous studies have shown a correlation between colon cancer, economic status, geography and diet. In industrialized countries, including those of Northwest Europe and North America, the incidence of colon cancer is much higher than in the developing countries of Africa, South America, rural India and Japan, where much less fat is consumed and the diet is higher in vegetables and fiber. Genetics do not seem to play as important a part. It seems that the Western diet with its larger amount of fat tends to increase the incidence of colon cancer.

The distribution of large bowel cancer for many years was such that 75% of the tumors were present in the rectum and sigmoid colon and readily accessible to early diagnosis. Over the past twenty years the distribution has moved so that now, well over half of the large bowel cancers are beyond the reach of the rigid sigmoidoscope and as many as one-third may be in the right half of the colon. Thus, the value of colonoscopy and double contrast barium enema x-ray studies in the diagnosis of large bowel cancer has increased.

Symptomatology chiefly relates to change in bowel habits, cramping abdominal pain, blood in the stool, anemia, a palpable abdominal mass, weight loss and obstruction. More than 60% of all large bowel cancers occur within the full range of the flexible sigmoidoscope. The use of the flexible sigmoidoscope provides for a better visualization of the tumor, easier excisional biopsy of small lesions, segmental biopsy of larger tumors and electrosurgical destruction or removal of benign growths. The American Cancer Society's National Professional Education Department is launching, in conjunction with the American Society of Gastrointestinal Endoscopy and the American Academy of Family Physicians, a physicians' training program to deal with the use of the flexible sigmoidoscopes. The Arkansas Academy of Family Physicians is being made aware of the possibilities of providing better patient care and more significant use of the annual physical examination. With the cooperation of the American Cancer Society, family physicians and other pri-

mary care physicians in Arkansas are being introduced to colorectal cancer diagnosis and treatment in continuing education courses. One such course is being provided at the University of Arkansas for Medical Sciences on November 3, 1984.

We in public health will do everything possible to provide for public education and information on a statewide basis through our county health units as well as through the central office of the Arkansas Department of Health. We can all do something toward the prevention of serious morbidity and death brought on by colorectal cancer. The Theologian Tryon Edwards once said, "Preventives of evil are far better than remedies; cheaper and easier of application, and surer in result."

ANSWER—Electrocardiogram of the Month

DISCUSSION: The electrocardiagram reveals an irregular irregularity of his cardiac mechanism with no P waves befare the QRS camplexes. Most often, this represents atrial fibrillation. The QRS interval is prolanged at 0.12 seconds and the "J deflection" is elevated in most leads, maximally in V_3-V_6. These waves might be canfused with P waves but most likely represent "J-waves" ar "Osbarn Waves" assaciated with hypothermia. With decreasing bady temperature, the sinus rate slows, atrial flutter and fibrillation occur, pralangation of all intervals takes place, T waves invert, and Osbarn waves appear consistently with core temperature below 77° F. The origin of the J-deflectian is unknown. The trace shows no firm evidence af infarctian. The feature editor wishes to thank Dr. Bruce Murphy of the UAMS Cardiology Division for his assistance with this manth's ECG.

Pediatric Update:

The Neurocutaneous Syndromes: Diagnosis and Management For The Primary Care Pediatrician

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ABSTRACT

The neurocutaneous disorders present a problem to the practicing pediatrician. They are not common enough to be routine, but they are too common to ignore. The vast majority of patients go unrecognized, but even when the astute clinician diagnoses these disorders, he is faced with problems of management. Should all these patients be referred? Such an approach is unsatisfactory to most pediatricians, but guidelines for office management of the myriads of potential problems in these patients are scarce or impractical. This is especially true of neurofibromatosis. We present clinical situations which should alert the pediatrician to the possibility of one of these disorders being present, and practical guidelines for management and counseling of these patients.

The neurocutaneous syndromes are disorders in the ectoderm derivatives (skin, nervous system, neuro-crest). Though over 40 in number, the majority of these disorders are rare. However, the most common neurofibromatosis occurs as often as cystic fibrosis. These disorders are often not diagnosed because the primary care physician fails to think about them. Predictable problems, therefore, are not recognized and managed appropriately and the patients are not given accurate prognostic information. These are dynamic disorders requiring careful followup.[1] This paper will discuss diagnosis of the five most common neurocutaneous syndromes, suggesting subtle clinical clues in which suspicions must be raised, practical guidelines for primary care management, indications for appropriate referral and information for accurate genetic counseling. The five disorders to be discussed are Sturge-Weber, tuberous sclerosis, neurofibromatosis, ataxia-telangectasia and Von Hipple-Lindau disease.

Sturge-Weber (encephalotrigeminalangiomatosis) is characterized by the triad: port wine stains, epilepsy and mental retardation. The port wine stain is a cutaneous vascular nevus in the distribution of trigeminal nerve with ipsilaterial angiomatoid malformation of the leptomeniges. It typically is unilateral and involves the periorbital distribution but may be bilateral and may involve only the lower face. Epilepsy occurs in practically 100% of the patients and is usually very difficult to control.[2] Although mental retardation has been reported in the majority of the patients, it has been suggested that as many as 40% of the patients may have normal intelligence.[1] Most researchers point out that the onset of epilepsy in the first two years of life has been correlated with more ominous prognosis. Other common findings are congenital glaucoma (33%), "tomato catsup" fundus (when the port wine stain is in the periorbital region), homonymous hemianopsia, and hemiplegia-hemiatrophy.[2] The pediatrician usually finds himself faced with an apparently normal baby except for a port wine stain of the face. The child usually has normal development for the first several months of life until the onset of epilepsy usually between the ages of six months and two years. The natural course from this point on is a relentless intellectual deterioration with increasingly more difficulty to control epilepsy, unilateral cortical blindness, and hemiatrophy-hemiplegia. Skull films may aid in the diagnosis but are typically normal in the first two to three years of life. After that time, "railroad calcifications" which are calcified sulci become apparent. CT scan shows the angiomatoid malformations in

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early life and may be helpful at the recognition of the port wine stain or at the onset of epilepsy.

Treatment of Sturge-Weber is controversial. For the patients who will have normal intelligence, medical treatment aimed at the control of epilepsy is indicated. These patients can often be distinguished by the onset of epilepsy after two years of age. However, in view of the predictably poor outcome of patients with the onset of epilepsy in the first two years of life, radical surgery is warranted.[2,3,4] Hoffman reports normal intelligence in 5 out of 7 patients treated early in life with hemispherectomy.[4] This radical surgery was done at or before the onset of epilepsy. All children subsequently had an I.Q. in the 80-100 range, no epilepsy or epilepsy that could easily be controlled on medications and less hemiatrophy and hemiplegia than is normally seen in patients with Sturge-Weber.[4]

Sturge-Weber is primarily a sporadic disorder. Some have suggested an autosomal dominant mode of transmission in a few patients but this is certainly the exception.[2] Therefore, the pediatrician should carefully question the parents concerning any family members with anything resembling Sturge-Weber. When the history is negative, the parents should be assured that the risk for subsequent pregnancies is low, but still greater than the general population.

Tuberous selerosis (Bourneville's disease) is characterized by the triad of adenoma sebaceum, mental retardation and epilepsy.[5] Some would add visceral hamartomas to this description.[1] This is an autosomal dominant disorder with variable expressivity and frequent spontaneous mutation. The occurrence of incomplete forms in the parents of patients is becoming appreciated more commonly today. Tuberous sclerosis is a multi-system disorder occurring in approximately 1 in 30,000 to 1 in 300,000 patients. Most references quote the more frequent number as the incidence.[5]

The central nervous system is the most profoundly affected of all. Epilepsy occurs in 85-100% of the patients and is characteristically difficult to control. Mental retardation occurs in 60-80% of the patients.[5,6] Mental capacity ranges from profoundly retarded to average intelligence which is usually found in the incomplete form. Histologically benign brain tumors occur in approximately 10% of the patients and these, at times, may become "malignant by position" by causing secondary problems such as obstructive hydrocephalus.[5,2] Phakomas, benign flat or cystic tumors may occur in the fundus and aid in establishing the diagnosis when present.

Skin changes are very important in the diagnosis of tuberous sclerosis. Adenoma sebaceum occurs in 85% of the patient but is not seen until age 2-8 years and does not become prominent until after puberty.[2,5] Because of this delay, this finding is less helpful for diagnosis or for genetic counseling. Ash leaf spots, hypopigmented patches, occur as frequently as adenoma subaceum and are much more helpful to the pediatrician because they are present at birth.[1,5,2] These may be difficult to appreciate, especially in light-skinned individuals. They can be highlighted by a wood's lamp. They are typically 1×2 cm with a broad base and narrow top in the shape of an ash leaf. They are more common on the trunk, but may be found on any part of the body. Shagreen patches are raised leathery plaques in the lumbo-sacral region. These are found in approximately 20% of patients with tuberous sclerosis but are a late manifestation.[2] Subungal fibromata (Koenen's tumors) are also late manifestations and occur in about 20% of the patients.[5] Their recognition is important as they are virtually diagnostic of tuberous sclerosis. Cafe-au-lait spots are often listed as important skin changes in tuberous sclerosis but are really of little help in the diagnosis. These are only found in approximately 5-7% of patients with tuberous sclerosis (A).

Visceral hamartomas are found in up to 80% of the patients, involving primarily the kidneys, heart, lungs. Renal angiolipomas are the most common of the visceral hamartomas occurring in greater than 60% of the patients. Though most commonly asymptomatic, these may present as enlarged cystic kidneys palpable on physical exam, as flank pain, or as episodic hematuria. They may cause frank renal failure. An IVP will resemble a polycystic kidney and may be misread. In situ malignant degeneration has been noted but no metastatic disease has ever been reported from these angiolipomas.[5] The second most common of the hamartomas are rhabdomyomas of the heart. These are usually diagnosed in one of two ways: an irregular cardiac silhouette is appreciated on a chest film which has usually been obtained for some other reason and or the patient may present with supraventricular tachycardia.

Cystic malformations of the lung are rare and are generally asymptomatic until the third decade of life at which time the patient may present with dyspnea, hemoptysis, obstructive airway disease, or spontaneous pneumothorax.[5,2] Chest films show "honeycomb lungs." These patients generally have the incomplete form of tuberous sclerosis. Offspring may have the complete expression.[5] Radiographic changes in the skeletal system are common, primarily osteoblastic or sclerotic changes in the axial skeleton and phalangial bone cysts. These are generally asymptomatic.[2]

There are several settings in which pediatricians should consider tuberous sclerosis and make diligent search for the cutaneous stigmata. The most important of these is in the child with infantile spasms; 38-68% of the patients with tuberous sclerosis have a past medical history of infantile spasms.[5,6] Pampligione reports an incidence of 26% of his patients with infantile spasms having stigmata of tuberous sclerosis, in those patients in which accurate followup was possible.[6] Although other researchers have not confirmed this high incidence with infantile spasms, the patient with infantile spasms should have a careful exam with a Wood's lamp for "ash leaf spots" and their parents examined for any stigmata in case they have the incomplete form. Indeed, any child with chronic epilepsy, especially one associated with mental retardation, deserves a careful search for the stigmata of tuberous sclerosis, and suspicions should be heightened in the above setting if the patient presents with either supraventricular tachycardia (a manifestation of a rhabdomyoma of the heart), renal failure, or polycystic kidneys (revealing hamartomatous changes of the kidney). Also, in any family having a history of "honeycomb" lungs, the possibility of tuberous sclerosis should be considered.

Diagnosis is made by clinical findings, but radiology can be helpful. Skull films may reveal periventricular calcifications in up to 50% of the patients, but this is a later manifestation, with only 14% of the patients manifesting this by one year of age. CT scan will pick up subependimal calcifications in almost all patients and may do so in the first year of life. This finding is also usually present in incomplete forms and some have used it in screening parents when the diagnosis is not clear.[7] The pediatrician is integral in the management of the patient with tuberous sclerosis. The diagnosis is his first responsibility and this requires careful search in the above clinical settings. The parents should be examined for stigmata both to help confirm the diagnosis in the child and to aid in genetic counseling. Routine urinalysis and renal function screening should be done. The treatment of epilepsy is often very difficult, frequently requiring help from a neurologist. The physician must always be alert for signs and symptoms of raised intracranial pressure possibly indicating a brain tumor causing hydrocephalus. Finally, he must provide genetic counseling. If the parent has an incomplete form, subsequent pregnancies have a 1 in 2 chance of producing a child with tuberous sclerosis. If no stigmata is present in the parents after careful search, the patient probably represents a spontaneous mutation, and so future pregnancies would be at only slightly higher risk than the general population.

Neurofibromatosis (Von Recklinghausen's disease) is the most common of the neurocutaneous disorders with an incidence of 1 in 2,000 to 3,200. It is autosomal dominant in transmission, but up to 50% of the patients appear to be the results of spontaneous mutation, giving neurofibromatosis the highest known rate of spontaneous mutations. Neurofibromatosis remains a clinical diagnosis in spite of attempts to determine a pathological one. Since there is variable clinical expression, the diagnosis is often not easy. Although the majority of patients have mere cosmetic problems, severely deforming lesions such as seen in Joseph Merrick ("The Elephant Man"), life-threatening problems or mental retardation occur in 7-20% of the patients.[8,9]

The diagnostic characteristics are found by history and physical examination. Cafe-au-lait spots are by no means pathognomonic, occurring commonly in the general population. However, more than two spots are rare except in neurofibromatosis.[10] It is generally agreed that five cafe-au-lait spots of greater than 0.5 cm in diameter is diagnostic of neurofibromatosis but the presence of more than two spots in a young child should make one very suspicious, especially if the parents are affected. There is an increasing number with age, with 50% of the patients having these at birth, 75% by two years, and over 90% of patients by adolescence. Neurofibromas are the hallmark lesion of neurofibromatosis and are

benign proliferations of Schwann cells and fibroblasts of the peripheral nervous system. These are rarely found prior to puberty and become more abundant with age. Lisch nodules are hamartomas of the iris and are found in over 90% of the patients after five years of age if carefully searched for.[11] Axillary freckles are found at birth in 20% of the patients and are virtually diagnostic. Finally, a positive family history can be obtained in about half of the cases. All parts of the body may be affected but we will only discuss areas that cause clinical problems.

The central nervous system is frequently involved which may produce clinical dilemmas. Megalencephaly, or increased cranial volume, is the most common CNS finding. This was not appreciated as part of neurofibromatosis until 1972.[12,13,14,15] Megalencephaly (head circumference greater than 95th percentile of age) is present in from 30% to 75% of patients.[13] Holt compared cranial capacity in patients with known intracranial pathology to those with no known pathology and found that megalencephaly, as a one time finding, did not correlate with intracranial pathology.[13] The incidence of hydrocephalus in neurofibromatosis is not known. A relative aquaductal stenosis was noted in 16% of patients in one autopsy series,[9] though not all of these were associated with hydrocephalus. Brain tumors, usually benign histologically, occur in 19% of all hospitalized children with neurofibromatosis with a peak incidence at ages 5-10 years. Unlike adults, optic gliomas are the most frequent of the intracranial tumors with acoustic neuromas becoming the most frequent only in late adolescence and adult life.[8,16] CNS dysfunctions are common; 10% of the patients have mental retardation and/or epilepsy, 40% of the children have school related problems such as school failure, and attention deficit disorder (ADD).[17] The peripheral nervous system contains neurofibromas which become most important when gigantic enlargement occurs over a nervous plexis. These plexiform neurofibromas can cause localized hypertrophy and be very disfiguring. Cranial nerve dysfunction is also seen most commonly in V, VII, VIII and X.

Skeletal related problems are the most common reasons for hospitalization, with scoliosis predominating. Though milder forms are the most commonly seen, the short segment thoracic curves and sharp cervical kyphosis are lesions which are almost unique to neurofibromatosis and may be very difficult to manage. Skull and facial changes are the second most common findings and, though usually insignificant, can cause grotesque disfigurement with serious emotional problems. The tibia may have anterolateral bowing or pseudoarthrosis, the latter being difficult to manage. Localized hypertrophy of extremities, with or without edema, can also be disfiguring.[10]

Neoplasms pose a serious threat to the patient with neurofibromatosis. The most common are brain tumors which are "malignant by position" but are histologically benign. However, the incidence of true malignancy is greater in neurofibromatosis than in the normal population. Malignant schwannomas, or malignant degeneration of the neurofibromas, are most common in the fifth to seventh decade but are also seen in children. Many have theorized an increased incidence of neurocrest tumors but, with the exception of the increased number of pheochromocytomas in adults, this has not been borne out. However, an increase in Wilm's tumor, rhabdomyosarcomas and leukemia have been found. Nonlymphocytic leukemia are twice as common as lymphocytic leukemia, whereas in the general population lymphocytic leukemias is four times as common, and the overall incidence is increased.[8-14]

Hypertension is another common problem. Idiopathic hypertension is the most common in adults, but pheochromocytomas and vascular disease need to be ruled out. In childhood, vascular problems are the main cause of hypertension. Coarctation of the abdominal aorta and renal artery stenosis are the large arteries usually affected. These may present with an abdominal bruit. Small vessel involvement of the kidneys can also occur and can result in hypertension which is difficult to control. Pheochromocytomas are almost never found in preadolescent patients and so an extensive search for them is not justified unless other symptoms (flushing, tachycardia, etc.) suggests the diagnosis.[18,19]

Other systems are also involved. Precocious or delayed puberty is common. Subareolar neurofibromas may be mistaken for premature thelarche. Benign tumors causing obstruction have been noted throughout the G.I. tract. The incidence of congenital heart disease is said to be 10-20 times higher than normal population with pulmonary stenosis most commonly reported.

In neurofibromatosis more so than any other neurocutaneous disorder the management of the patient needs to be orchestrated by the primary care physician. Growth parameters should be plotted routinely since many of these patients will have failure to thrive. Head circumference measurements are important. Although one time measurements may not point to intracranial pathology, a rapidly increasing head circumference should be investigated. Developmental milestones and school performance must be followed closely. Blood pressure should be measured at every visit. Questions about vision should be asked and formal visual screening should be performed as soon as the child is old enough to cooperate. This is especially important in the 5-10 year age group where optic gliomas are most common. Hearing screening should begin in adolescence. At every visit, careful neurological assessment is mandatory. Careful history including headaches, vomiting and personality changes should be obtained. An occult VIth nerve palsy, the "setting sun sign," and a "cracked pot" skull must be searched for during the exam. Skeletal exam should be routine, looking for scoliosis, asymmetry of the limbs, or bowing of the tibia. Any serious disorders noted warrants prompt referral to the appropriate specialist.

It is essential to know whether or not the parents have the stigmata. Since up to 50% of the patients may be the result of spontaneous mutations, there may be little risk in subsequent pregnancies. If either parent has stigmata, all subsequent pregnancies have a 50% risk. It must be stressed to those parents that 7-20% of all patients with neurofibromatosis will have serious complications[9,8] and that this is not just cosmetic problems, as many parents have been told in the past. It has been commonly thought that the severity of neurofibromatosis tended to run in families but recent data refutes this. A family that has been mildly involved should not be assured that subsequent offspring would also be as fortunate.[8] Once it has been made clear to the parents the problems associated with neurofibromatosis, the decision for subsequent offspring must be left to them.

Ataxia-Telangiectasia (Louis-Bar syndrome). This is a rare hereditary disease, characterized by progressive cerebellar ataxia, choreoathetosis, oculocutaneous telangiectasia, recurrent sinopulmonary infection and susceptibility to lymphoreticular neoplasia. This multisystem disease is transmitted as an autosomal recessive trait.[20] The molecular defect underlying this condition is not fully understood. The relationship of the immune deficiency and neurologic dysfunction is still unexplained. In view of an elevation of alpha-feto protein,[21] it has been postulated that a persistent population of immature hepatocytes remains, providing evidence for primary defect in tissue differentiation[22] and abnormal process of embryogenesis. A faulty mesoderm hypothesis resulting in failure of mesodermoendodermal interaction, and an autoimmune disorder have also been proposed.[23]

Cerebellar cortical artophy and severe degeneration and loss of purkinge and granulosa cells are the most common pathological findings.[24] Demyelination of the posterior column, dorsal spinocerebellar tract and degeneration of the neurons of the dentate and olivary nuclei has been described. No telangiectasia or other vascular anomalies are noted in the nervous system.[25] The thymus is small or absent. Hypoplastic ovaries or testes, abnormal spermatogenesis and other disorders of the endocrine system have been reported.

Cerebellar signs appear in infancy, usually around age one to three years. Although the initial finding is unsteady gait, patients are confined to wheelchairs by early adolescence.[26] The ataxia is primarily of truncal type, and about 85% of the patients develop choreoathetosis, dystonic postures may appear in second decade, and apraxia of eye movements and nystagmus are also present.[27] Speech is dysarthric and muscle bulk is decreased. Deep tendon reflexes are diminished and a marked degree of hypotonia is present. There is no sensory abnormality. Telangiectasias appears first on the exposed bulbar conjunctivae and later are seen on external ears, palate, antecubital and popliteal fossa. Onset of telangiectasia may be as late as age fourteen years.[28] Recurrent ear infections, sinusitis, and pulmonary infections cause chronic bronchitis and bronchioectasis in 80-90% of patients. Intellectual function gradually declines as the patient's disease progresses. The hair becomes gray prematurely, and children appear older than their actual age. Seborrheic dermatitis is also a common finding.[27]

Abnormalities of the cellular and humoral

immune systems including decreased concentrations of IgA and IgE, and leukopenia, as well as hyperglycemia, are seen in the majority of patients. The exact correlation between immune deficiencies and recurrent sinopulmonary infections is not known as some patients deficient in IgA do not have increased susceptibility to infection.[29] Impairment of delayed hypersensitivity and delayed homograph rejection as well as reduced *in vitro* lymphocytic blast cell transformation when cultured with phytohemagglutinin has been demonstrated.[30] A defective DNA repair mechanism leading to an increased frequency of spontaneous chromosome abnormalities may explain the susceptability of these patients to malignancies.[31,32] Malignant lymphomas, reticulum cell sarcoma, and Hodgkins disease have been observed with increased incidence in patients with ataxia telangiectasia.[31] Serum alpha-feto protein concentration are usually 2-10 times elevated.[21,26] In the typical case where there is a combination of oculocutaneous lesions and the neurologic picture, the diagnosis is easy. This condition should be differentiated from other progressive cerebellar ataxias such as posterior fossa neoplasm, Arnold-Chiari malformation, Friedreich's ataxia, juvenile cerebromacular degeneration, Refesum's disease, a beta-lipo protein anemia, Hartnup disease, or hepatolenticular degeneration.

There is no specific treatment. The patient should be closely observed for development of malignant tumors of the lymphatic tissue while recurring infections need to be treated with appropriate antibiotics. The disease is slowly progressive with death occurring at about 20-25 years.[33] More than half of the patients die from chronic pulmonary disease.

Von Hippel-Landau Disease (Cerebellar-Retinal Angiomatosis). Von Hippel-Lindau disease is characterized by association of cerebellar hemangioblastoma, retinal and spinal cord angiomatoma and multiple congenital cysts of the pancreas, kidney, epididymis. This rare condition is grouped among the phakomatoses as an unknown abnormality of germ plasm. It is transmitted as an autosomal dominant trait with incomplete penetrance. Lindau's tumor is commonly referred to as a cerebellar hemangioplastoma. The lesion appears solid, cystic or occasionally multiple cystic. Cerebellar hemangioblastomas account for about 7-10% of all posterior fossa tumors.[34] These tumors appear as many thin-walled vessels separated by abundant network of recticuline fibers. The familial occurrence of pheochromocytomas is described in this disease.[35]

Clinical manifestations of the disease are related to the site of abnormality. Retinal hemangioblastomas cause loss of vision when they are located in the macula. Formation of exudate may cause retinal detachment. Retinal involvement is bilateral in 50% of patients. Cerebellar hemangioblastoma cause symptoms of increased intracranial pressure and cerebellar dysfunction. Headache is one of the most common clinical features which may be of fluctuating intensity.[36] Other signs of increased intracranial pressure such as vertigo, vomiting, papilledema, and diplopia may follow. Intermedullary and spinal cord involvement are manifested by posterior column dysfunction and are frequently associated with syrigomyalia. Small cystic lesions in the kidney, pancreas and epididymus usually remain asymptomatic. However, renal cell carcinomas have been described. A thorough evaluation of the urinary system should be performed. Patients usually remain asymptomatic until the second decade.

Patients suspected of having Von Hippel-Lindau disease need angiography for complete evaluation as CT scan may not show small hemangioblastomas. Vertebral angiography may demonstrate the presence of a small dense vascular nodule or displacement of cerebellar vessels. A spinal tap is a hazardous procedure. Cerebrospinal fluid protein content is usually elevated. This condition should be differentiated from midline cerebellar tumors such as medulloblastomas and retinoblastoma with an abnormal vascularization.[37] Patients with Von Hippel-Lindau's disease must be carefully followed on a long-term basis.

Treatment is surgical removal for cerebellar and spinal cord hemangioblastomas. Retinal hemangioblastomas have been treated by a variety of methods including photo coagulation and cryotherapy.

In conclusion, the neurocutaneous disorders have been reviewed. The incidence, the diagnostic criteria, clinical settings where more careful examination is warranted, predictable medical problems and genetic transmission are presented here. The pediatrician, by following these guidelines, should be able to adequately follow most patients with these disorders, and should know when to refer to appropriate specialists, and thus

making him competent to deal with these challenging disorders.

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Surgical Overview:

Intraoperative Assessment of Aortoiliac Stenosis: Role of Papaverine-Induced Hyperemia

Johnny E. Brian, Jr., M.D., John C. Gocio, M.D., and Robert W. Barnes, M.D.*

INTRODUCTION

Arterial reconstruction of lower extremity vasculature for symptoms of ischemia is now commonplace. Evaluation of blood supply to the lower extremities is based on the symptom complex, noninvasive tests, and arteriography. Most often the decision regarding the need for and type of reconstructive surgery to perform rests on the arteriogram. Arteriography offers a single static picture of arterial anatomy. It has been recognized that single plane arteriography is often an unreliable method for evaluating the significance of an occlusive lesion. With the decision as to what type of reconstruction to perform resting on the location and significance of a lesion seen on arteriograms, it is almost always preferable to evaluate such a lesion in a dynamic manner. Various methods of physiologic testing have been utilized in evaluation of the lower extremities including exercise, reactive hyperemia and pharmacologic vasodilation. Dynamic evaluation is based on measurement of intra-arterial pressures with induction of vasodilation. Vasodilation increases flow, simulating the increased flow seen with exercise. A fall in intra-arterial pressure following vasodilation indicates inability of the upstream vasculature to deliver sufficient blood volume. Some lesions may demonstrate no pressure gradient at rest but following vasodilation a gradient may become apparent. Such lesions provide sufficient flow at rest to meet the basal needs of the lower extremity but the increased demand during exercise exceeds the maximal flow rate which can pass the lesion. In our case report we demonstrate how physiologic testing altered our decision as to what type of reconstruction to perform.

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CASE REPORT

Our patient, a 56-year-old white male, presented to the LRVAH with an eighteen month history of progressive claudication of his left buttock and leg. The onset of cramping pain in the gluteal muscles was noted with ambulation of greater than thirty yards. Continued ambulation would cause progression of pain down the leg to involve the thigh and calf. Relief of the pain resulted after five to ten minutes of rest. The severity of the pain limited ambulation to less than one hundred yards. There was no pain at rest and there was no tissue loss on the lower extremities.

Past history was significant for smoking two packages of cigarettes per day for forty years and untreated hypertension for one year. He had undergone coronary artery bypass grafting in 1979 for coronary artery occlusive disease.

Physical examination of the lower extremities revealed loss of hair and dystrophic changes of the nails. Femoral pulses were full bilaterally. No popliteal pulses were palpable. However, the right posterior tibial pulse was easily felt with absence of the dorsal pedis pulse. No pulses were present in the left foot.

Noninvasive tests were performed to evaluate the blood supply to the lower extremities. Measurement of the brachial and pedal systolic pressures by Doppler signal was carried out. Calculation of an ankle/arm pressure ratio yielded 0.54 on the left and 0.86 on the right. Segmental Doppler pressure measurement revealed a 20mmHg drop between the arm and proximal thigh on the left and a second drop of 26mmHg at the above-knee level. There was no decrease in the proximal thigh or above-knee pressure on the right. Arteriography was performed revealing a moderately severe stenosis of the left common iliac artery (Fig. 1). The left superficial femoral artery was occluded at the level of the greater trochanter with reconstitution distally. During

the arteriogram, pressures were measured above and below the lesion and no gradient was detected. This patient had been considered for possible balloon dilatation, however, in the absence of a pressure gradient at rest, the radiologists felt that dilatation was not warranted.

Following review of the films, it was felt that the patient would benefit from arterial reconstruction. Although at rest, there was no gradient across the iliac lesion we questioned whether the lesion was hemodynamically significant. The decision as to which type of reconstructive procedure to offer this patient pivoted on this lesion. If the stenosis was insignificant, then the patient should benefit from a femoropopliteal bypass. If, however, there was significant obstruction to inflow, the best operation would be an aortofemoral bypass.

With the knowledge that lesions insignificant at rest may become significant at exercise, it was elected to perform pre- and post-vasodilatory pressure measurements in the femoral artery. For this the patient was taken to the operating room. After induction of general anesthesia, a left radial artery line was inserted for continuous pressure monitoring. The left groin was then incised and the common femoral artery was exposed and isolated. A twenty gauge needle attached to a pressure monitoring transducer was then inserted into the common femoral artery for pressure measurements. A single transducer was used and switched between the two pressure lines to limit mechanical error. Initially the radial and femoral pressures were equal, confirming the arteriographic findings. Thirty milligrams of papaverine hydrochloride were then injected into the common femoral artery via a three way stopcock. The arterial pressure in the femoral artery began falling approximately thirty seconds after injection and reached its maximum drop at about ninety seconds. The lowest pressure observed was 70mmHg (Fig. 2). The resting pressure in both the radial and femoral arteries was approximately 100mmHg. This represented a drop of 30% over the baseline pressure. We felt that this test demonstrated that the iliac stenosis was a hemodynamically significant one and should be bypassed. An aortofemoral graft was then performed.



Figure 1.

An anteroposterior arteriogram of the aorta and iliac vessels is seen in this figure. Stenosis of the left common iliac artery is evident.

Post-operative recovery was unremarkable and the patient was discharged home on the tenth post-operative day. He was seen in follow up four weeks later and had noted a marked increase in his exercise tolerance. The patient can now ambulate one mile without symptoms of ischemia. Doppler indexes had risen to .76 on the left and 1.00 on the right. Posterior tibial pulses were easily palpable on both sides.

DISCUSSION

Physiologic evaluation of lower extremity blood supply is not a new concept. The disappearance of palpable pulses following exercise has been recognized since the 1940's. Initially this phenomenon was attributed to vasospasm induced by exercise.[1] Only later did the contribution of occlusive vascular disease become appreciated. In the early 1960's DeWeese recognized that falling pulse pressure could be due to occlusive disease and used these findings in making surgical decisions.[2] Various methods of physiologic evaluation have been used in the lower extremity. Exercise is the simplest and it has been used in conjunction with intra-arterial pressure measure-

ments.[3] The need for special testing apparatus and a cooperative patient often preclude its use. Some have used reactive hyperemia as a method of inducing vasodilation.[4] This method causes greater vasodilation than can be achieved with either exercise or pharmacologic agents. Unfortunately this method is limited clinically because the amount of pain resulting from tourniquet occlusion is poorly tolerated by most patients. Pharmacologic vasodilation is obviously the simplest method to accomplish lower extremity vasodilation. Numerous compounds have been used, including tolazoline,[5] reserpine,[6] bamethane,[7] and isoxuprine.[4] Papaverine was first used in 1966 by Seko.[8] Since then numerous authors have used this drug in the evaluation of blood flow in the lower extremities.[4,7-11,13] Papaverine offers the maximum amount of vasodilation with the least amount of systemic dilation. Systemic pressure must be maintained so that comparative pressure measurements can be made. Various dosages have been utilized but it is felt that 20 to 40 milligrams of papaverine is in the optimal range.[9,10] Dosages of greater than 60 milligrams have significant systemic effect causing a drop in arterial pressure. Onset of effect occurs within 10 to 15 seconds, a maximum effect is seen by 30 to 90 seconds, and the effect is completely dissipated within two to five minutes.[9] Papaverine acts directly by relaxing vascular smooth muscle and has no adrenergic blocking effects. The exact mechanism of papaverine is not known but it is thought that the vasodilation results from inhibition of cyclic nucleotide phosphodiesterase.[11]

The inadequacy of single plane arteriography for evaluation of occlusive lesions has long been recognized.[10] Reduction of the lumen in its anteroposterior diameter cannot be seen on the AP films usually used in aortofemoral arteriography. Such a lesion allows a thin ribbon of blood to pass, significantly reducing the flow rate. Multiple plane arteriography can better delineate such lesions, but offers no physiologic measurement of their significance. Occlusive lesions also produce turbulent flow, which increases as the flow rate increases. Turbulence in flow can significantly

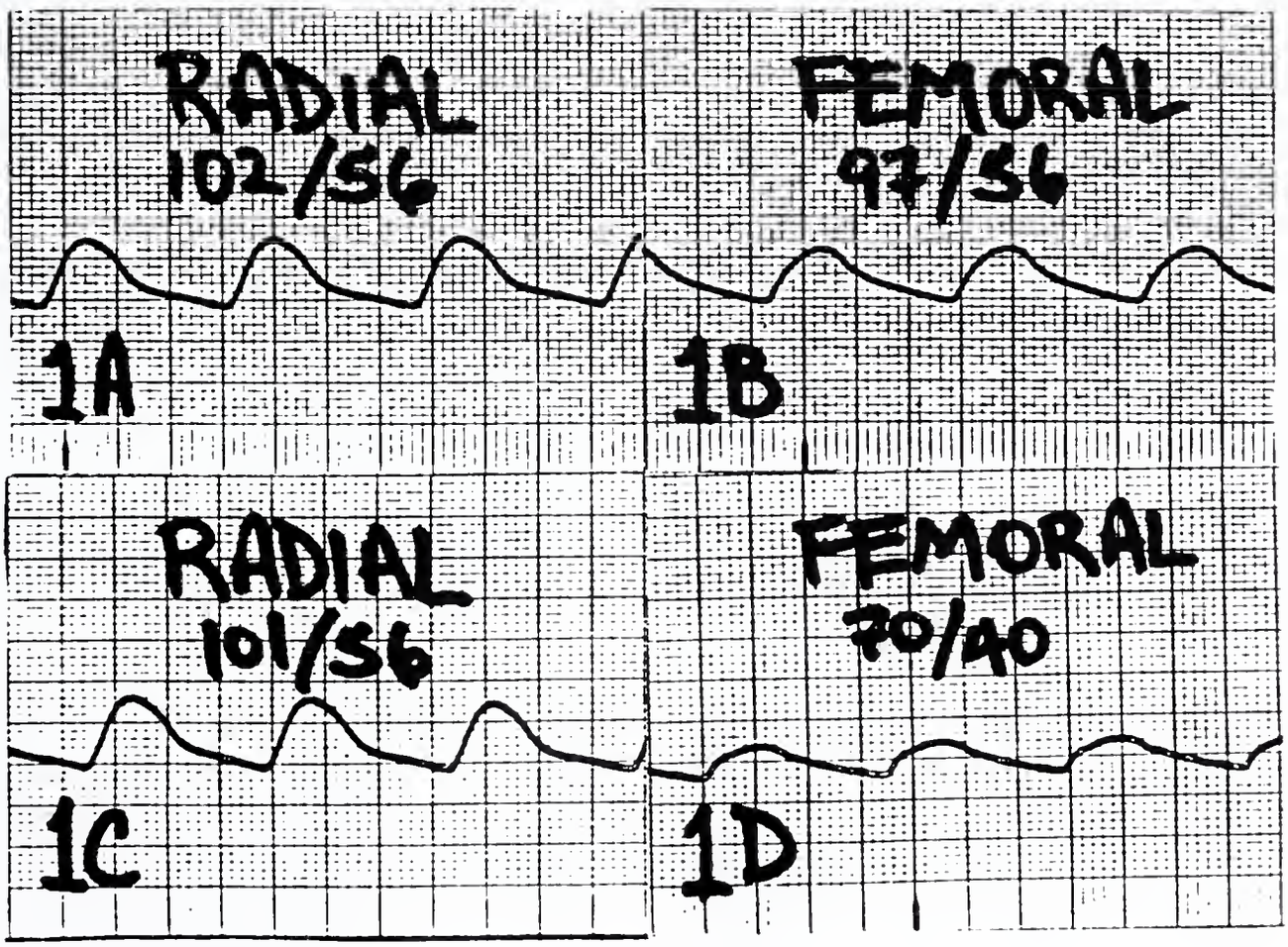


Figure 2.

Pressure tracings made before and after injection of papaverine. A marked drop in femoral artery pressure is seen with flattening of the pressure trace. The actual pressure values were taken from a digital readout.

decrease the amount of blood which can pass an occlusive lesion. Intra-arterial pressure measurements during arteriography aid in evaluation of such lesions, but without vasodilation and increased flow, the true significance of occlusive lesions cannot be known.

The fall in pressure following vasodilation is indicative of inability of the arteral system to supply enough blood flow to meet demands. Obviously the area of stenosis must lie proximal to the pressure transducer. With pressure measurement in the common femoral artery the stenotic area lies rostral to it in the aortoiliac vessels. The absence of a decrease in pressure does not indicate with certainty that no inflow disease exists. The co-existence of outflow disease may prevent increased flow from occurring following vasodilation.

The relative fall in arterial pressure following induced vasodilation is significant in predicting the degree of aortoiliac disease. A fall of ten to twenty percent is felt to represent significant aortoiliac occlusive disease.[8,12] In one study by Flanigan et al., a fall of 15% or greater was found to be the most specific for significant occlusive disease. In their series all limbs with a fall in pressure of greater than or equal to 15% improved following aortoiliac bypass. Of significant note is that 21% of these limbs had no gradient at rest. In limbs with less than a 15% fall following vasodilation no improvement was seen following aortoiliac revascularization.[12]

Distal arterial disease was present in our patient in addition to his proximal lesion. Without physiologic evaluation of blood flow some might have performed a femoropopliteal bypass. With inflow disease such a procedure might have been doomed to failure. By proper physiologic evaluation we feel that we arrived at the true nature of this patient's disease and performed the indicated reconstructive procedure.

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EDITORIAL

National Health Plan

Alfred Kahn, Jr., M.D.

The siren song of socialized medicine has been heard off and on for years. Its most recent reprise was in a Little Rock daily newspaper on October 24th and October 29th, 1984. The idea of a so-called National Health Plan is just a thinly-disguised euphuism for a request for socialized medicine. The pros and cons of socialized medicine have been hashed and rehashed ad nauseam. The gadfly and precipitating cause for the current resumption of drum beating for socialized medicine is the cost of medical care.

The cost of medical care needs some examination. The cost of medical care is more than it used to be say 25 years ago. The culprit is not that physicians have, in either a careless or thoughtless way, collectively "ganged up" to run up the cost of ill health. The culprit is generalized inflation. The cost of medical care goes up as do the general prices in the community. For example, while the cost of an office visit has gone up by a multiple of five—$5 to $25—the cost of a daily newspaper went from 5 cents to 25 cents—both by a factor of five. Unquestionably, the so-called market place economics would have prevented physicians from successfully raising fees had not all costs in the economy gone up. The cost of hospitalization, without adding physician fees, had gone up precipitiously; this, too, has been inflation inspired—and unfortunately, this cost is beyond the control of physicians. This editorial is not addressed to the cost of hospital care, which is a vectoring of hotel-like costs, special attendants as nursing staff, construction costs, supply costs, etc.; the common denominator or final hospital charges are determined by hospital administrators and their boards, not by the staff physicians. If a blame is to be taken one step beyond inflation, it would appear to be a melange of high oil prices, some annual increase in wages beyond productivity (which is said to improve about 2-3% per year), defective balance of trade, failure of successive governmental administrations to deal effectively with inflationary economic factors as increasing national debt, poor management in some industries, lag in updating factory equipment in order to produce more economically, etc. The rise in medical fees by physicians is infinitesimally small in inducing inflation in the face of these other factors, and conversely, physicians have had to increase fees in order to stay economically viable.

Let's face it, the cost of medical care is high. Higher than physicians might like it to be, but the solution of socializing medicine will create more problems than it will solve. The fall-out from socialized medicine is well known. To the patients, it means accepting lesser levels of medical care; in some instances where socialized medicine obtains, the patient does not get a free choice of physicians; there are limitations on the style and mode of medical practice and delivery—including waits by patients to get into hospitals and physicians' offices. Perhaps a paramount negative factor is the possible "brain drain"; if professional people do not get adequate financial rewards for their efforts, they tend to gravitate into other geographic locations—and there is a definite risk of failure to attract bright young people into the affected profession.

The heavy hand of government entering into the domain of professions and private enterprise carries some fearsome penalties. Regulations, inspections, required routines, delays, "hurry-up and wait," and so on, are all part of big government intervention in the private sector—and for that matter, in the conduct of business; in short, regulation outweighs innovation—and stagnation at a policy-making level and at a tactical level intervenes.

If the drum beaters for socialized medicine

mean less expensive medical care, then why not nail the real culprit: Inflation. Why not advocate a balanced congressional budget, a favorable balance of trade, reduced government spending, better industrial management and a realistic relationship between productivity and wages.

Realistically, one might ask if you have a better plan, a truly workable, realistic plan for a better way to deliver medical care, why don't you present it; let's examine it and see what are its credits and debits. Organized medicine is not an uncaring, unthinking group; in the past, the schemes for government medicine have been riddled with flaws—and as of this time, no new development in the theory of government seems better than private enterprise. Many facets of our government are being deregulated—why regulate a part of our nation when the tide of opinion is generally against government intervention. No! to socialized medicine.



"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

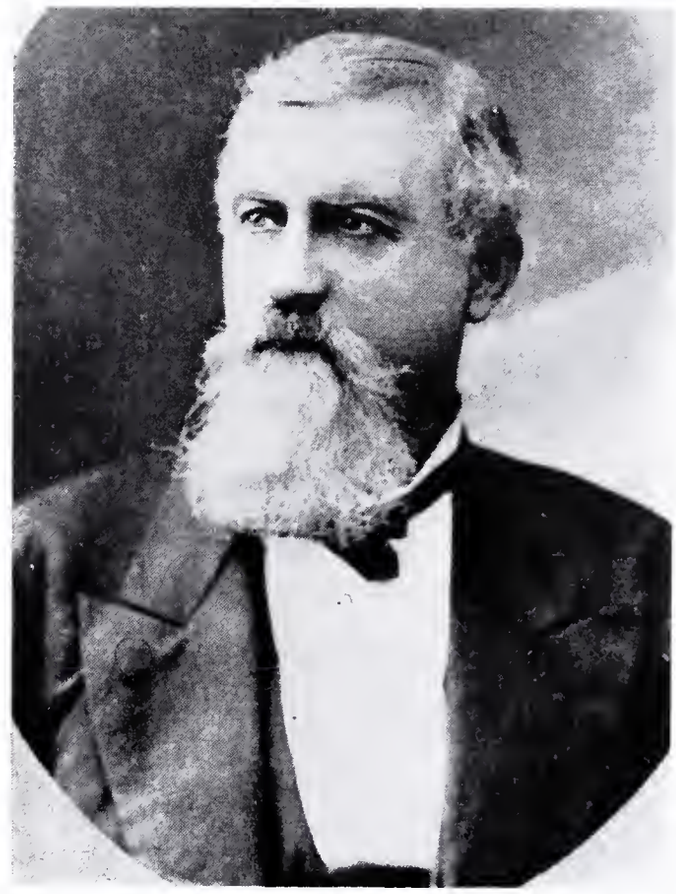
C. C. Forbes

Edwina Walls,* and David W. Bizzell**

Chastine Caldwell Forbes is a physician important in Arkansas history because he was the first medical director of the Arkansas State Lunatic Asylum (now the Arkansas State Hospital) when it opened the first of March 1883. Dr. Forbes was elected to that position by the Board of Trustees in November 1882, and he assumed his duties on December 1, 1882. The report of the Trustees indicates that his name was presented for consideration "without his solicitation or knowledge." One of the factors which influenced him to accept the position was his personal friendship with Arkansas Governor Thomas J. Churchill, also a native Kentuckian. Forbes directed the Asylum for three years during which many improvements were made in the physical plant using primarily patient laborers.

Dr. Forbes had been the superintendent of the Fourth Kentucky Lunatic Asylum (now Central State Hospital at Lakeland) when that institution opened in 1872. He continued as superintendent there until 1879, possibly longer. At some point he moved to Louisville, Kentucky, where he was in private practice in late 1882, just prior to moving to Arkansas. Bringing his experience from opening the Kentucky asylum to his job, Forbes set about to direct the new Arkansas institution. Assisting him was his wife, Emily, who was the first matron of the Asylum. Her duties were clearly outlined in the Asylum's 1883 *Rules, Regulations and By-Laws,* as were his. In 1884 Forbes' title was changed from Medical Director to Medical Superintendent. The couple remained at the Asylum until late 1885. He tendered his resignation in April 1885, citing failing health, but was not replaced until September 1885 when Dr. P. O. Hooper was named as his successor.

From Little Rock Forbes moved to Wellington, Kansas, where he maintained a small practice and did some work as a printer. The Forbes returned to Arkansas in 1886 for a very brief time, and he was listed as a member of the Sebastian County



Medical Society in 1887. However, they returned to Wellington sometime that year and resided there at the time of Mrs. Forbes' death in 1894. She was buried in Wellington, Kansas, but about July 1895 her body was disinterred and moved to Glasgow, Kentucky, for burial. About a year after his wife's death, Dr. Forbes moved to Chicago and resided with his daughter until his death on March 16, 1898. He was buried in the Odd Fellow Cemetary (now Glasgow City Cemetery) in his native state.

Dr. Forbes was born in Christian County, Kentucky, in 1830. He graduated from the St. Louis Medical College on March 1, 1856. He returned to Glasgow, Kentucky, to practice medicine after his graduation.

On January 7, 1858, in Glasgow, Dr. Forbes married Emily C. McFerran, a native of that city. Leaving Glasgow to serve with the Confederacy, Forbes rendered service at Savannah, Georgia, in

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late 1863 and early 1864. He returned to Glasgow after the Civil War.

The Forbes were the parents of seven children, three boys and four girls. They were John Coats, b. 1860; William R., b. 1862; Emily J., b. 1865; Caroline L., b. 1870; Charles C., b. 1874; and Nancy, birth date unknown, who died as an infant.

In addition to being a physician, Forbes was a newspaper editor. With the Honorable W. L. Porter, he founded the *Glasgow Times* in 1865. His obituary states that "as a writer he soon developed the same ability that had made him famous in his chosen profession." The Glasgow, Kentucky, newspaper continues to be published today under the same name.

C. C. and Emily Forbes played an important role in Arkansas medical history by guiding the growth of the State's mental health institution during its infancy.

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MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

Fallout From E-Ferol

The Food and Drug Administration (FDA) announced in September that it will take new regulatory steps to protect against another E-Ferol-type problem.

One year ago, some physicians began using intravenous E-Ferol to prevent vitamin E deficiency in premature newborns in high oxygen environments with hopes of averting blindness. Some 38 infants reportedly died from the drug.

Because IV E-Ferol was a new form of an old product—the single entity vitamin—FDA staffers had assumed that it would be no more dangerous than the existing intramuscular and oral forms of the vitamin. Instead, it caused massive ascites, liver abnormalities, jaundice, splenomegaly, and thrombocytopenia.

In a letter to Rep. Ted Weiss (D-NY), FDA Commissioner Frank E. Young, M.D., described new changes in FDA drug approval policy to prevent occurrence of this type of problem:

- ★ Enforcement action against any unapproved drug product that differs from pre-1962 products in dosage strength, form, route of administration, indications for use, intended patient population, or formulation. It is not safe to presume that a new product is safe merely because it is "related" to a pre-1962 drug now on the market, Dr. Young said.
- ★ A new requirement that manufacturers and distributors of all drug products submit to FDA any important adverse reaction information.
- ★ Inspections of all parenteral drug manufacturing plants in this country, with special attention given manufacturers of small volume parenterals such as E-Ferol.

In addition, the agency will do more to encourage physicians to report adverse reactions to FDA.

* * * *

IAT Materials Inefficient, Dangerous

Materials used in the controversial immunoaugmentative therapy (IAT) appear ineffective and may cause viral hepatitis and bacterial abcess, according to cancer treatment specialists at the National Cancer Institute.

IAT is an unproven cancer treatment administered in Freeport, Grand Bahamas, by zoologist Lawrence Burton. In the past six years, an estimated 1,900 cancer patients have traveled to Freeport to receive injections of a mixture of necrotic tumors and blood in hopes of restoring their immune function.

Burton's Immunological Research Center claims 50% response rates with IAT in a wide variety of tumors such as ovarian, prostate and small cell lung cancer, histiocytic lymphoma, and acute leukemia.

The National Cancer Institute, however, says it cannot establish either a scientific basis for IAT, or evidence of its effectiveness in cancer treatment.

A recent analysis of IAT reagants supplied to NCI by five U. S. patients revealed that the injections consist of simple blood proteins devoid of biological activity. In addition, all materials were contaminated with bacteria and four were positive for hepatitis.

The Centers for Disease Control also have discovered bacterial contamination of IAT material. Moreover, they reported abcesses in 5 of every 100 patients treated with IAT. Most were infected with nocardiosis, a type of bacteria rare in humans but common in cattle. In two patients, the infections could not be controlled with surgery or antibiotics.

* * * *

Physicians Not Signing Up Early

By mid-September, only 10 to 12% of physicians had signed agreements to become Medicare "participating physicians," according to a survey by the Health Care Financing Administration.

The agency, which gave physicians until October 1 to choose whether or not to be participating or nonparticipating physicians, believes the proportion of participating MDs will increase as the deadline approaches.

To answer physicians' questions regarding the freeze and participating physicians provisions enacted this summer in the Deficit Reduction Act, HCFA established a hotline. The hotline, which

will also handle calls about the act's laboratory reimbursement modifications, can be reached by calling 301-594-9504.

The participating physician provisions were the subject of a massive grass roots campaign by the American Association of Retired Persons. Calling them "one of the biggest health care cost control measures to come along for a long time," the 16-million member organization launched a nationwide campaign to encourage physicians to sign up for the new option.

Kicked off at a press conference with Congressional and Reagan administration participation, the campaign involved mailings to 30,000 AARP volunteer community leaders.

Responding to the AARP, American Medical Association Executive Vice President James Sammons, M.D., urged physicians to continue to accept or not accept assignment according to individual patient needs. He noted that the AMA has challenged the provisions in court.

* * * *

Bill To Discipline 'Bad' Physicians Clears House Unit

The House Ways and Means Committee has approved a bill (HR 5989) that would expand the federal government's authority to act against physicians and other practitioners disciplined by state boards or sanctioned by Medicare and Medicaid.

Originally introduced in the Senate as S 2744 by Senate Aging Committee Chairman John Heinz (R-PA), the measure was introduced in the House by Rep. Henson Moore (R-LA) who said he hopes to see it enacted before Congress adjourns in October.

The bill stems from a General Accounting Office investigation recommending that Medicare and Medicaid be given authority to exclude any practitioner whose license had been removed by a state licensing board. It followed a GAO investigation which traced practitioners who lost their licenses in three states. One-third of these physicians held licenses in other states and at least 10% of them enrolled as Medicare or Medicaid providers in another state.

As approved by the committee, the measure excludes from Medicare and/or Medicaid any provider convicted of financial fraud or abuse of patients or controlled substances in connection with any state, federal or local health program. Any institution or entity whose owner, manager or director had been sanctioned by Medicare could also be excluded. The minimum exclusion is for five years.

The committee made several modifications in the proposal that had been approved by its health subcommittee. A requirement that state licensing boards inform HHS of all sanctions and license revocations imposed on health care practitioners was modified to permit HHS to acquire this from private agencies that already collect it. A provision permitting exclusion of providers failing to grant immediate access of records to the inspector general was changed to authorize suspension of payment rather than exclusion.

The modifications respond to suggestions of witnesses at a subcommittee hearing. American Medical Association Board of Trustees member Dr. John Ring criticized the exclusion authority against providers refusing access to records.

"Provisions such as exclusion for failure to grant the inspector general immediate access to records involve neither the professional fitness of the practitioner or any serious threat to the program involved," Dr. Ring said. Complying with administrative requirements of federal programs may be important, he added, but "they are a far cry from losing a license to practice medicine because of incompetence."

In other testimony, the inspector general, along with the Federation of State Medical Boards of the United States, urged deletion of the requirement that states report disciplinary actions to HHS. They argued that voluntary organizations like the Federation already are maintaining a registry which the federal government could tap into.

* * * *

California PRO Contract Draws Protest

A three-way competition for the nation's largest peer review organization (PRO) contract ended in September with the award of the California PRO contract to California Medical Review, Inc. (CMRI).

In winning the $27 million contract, CMRI triumphed over the United Foundations for Medical Care and a California Medical Association subsidiary called California Peer Review Organization (CPRO). The contract to review the more than 1 million annual Medicare hospital discharges in California brought the total number of awards in the fledging PRO program to 36.

The California bidding competition continued through two solicitations and drew a formal pro-

test even before the competition was completed. Filed by the medical association's subsidiary, CPRO, the protest follows similar action by the Florida Medical Association which lodged a protest with the General Accounting Office and filed a freedom of information suit in federal courts after the Florida contract was awarded to another bidder.

In California, CMA officials questioned federal interpretations they say unfairly denied CPRO the extra 100 points (of a total 1,200) assigned to physician-sponsored organizations, undercounted the experience of the CPRO staff and its four PSRO subcontractors, and instructed CPRO to validate its proposed objectives through review of medical records that were not available to CPRO.

In Florida, the issue centers on objectives in the winning contractor's (Professional Foundation of Health Care Inc.) proposal. FMA officials say that their review of a portion of the PFHCI bid revealed that at least some of the TAMPA-based organization's objectives are unrealistic.

FMA's initial action was to request a General Accounting Office investigation of the bidding in Florida. When HCFA failed to supply most of the documents, it asked for in preparation for that protest, the FMA filed a freedom of information suit in federal district court. In late September the FMA officials met with Florida congressmen to call attention to the problems they perceived in the Florida PRO contract and to request a meeting with Department of Health and Human Services Secretary Margaret Heckler.

* * * *

More On PROs

As of September 26, the Health Care Financing Administration had signed PRO contracts for 36 states.

In an interview with the *American Medical News,* HCFA Administrator Carolyne Davis, Ph.D., said she expects PROs to be in operation in all states by the November 15 deadline for implementation of the program. After that time, hospitals will not be paid by Medicare if they have not contracted with a PRO and Medicare intermediaries may become PROs.

Davis said that while she prefers to have all medical organization PROs, it is possible that intermediaries will become PROs in three states (Maine, Illinois and Hawaii) where a third round of bid solicitations has gone out.

Bids in the three states are still limited to physician-sponsored or physician-access groups, she said. "If I cannot get a good proposal, I will have no choice but to turn to an intermediary."

States which now have a PRO contract are: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Indiana, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Montana, Nebraska and Nevada.

Also, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Oregon, Puerto Rico, Rhode Island, South Carolina, Tennessee, Utah, Virgin Islands, Washington, West Virginia, Wisconsin and Wyoming.

Five of the PROs (Indiana, Missouri, Nebraska, New York and North Carolina) were proposals of state medical societies.

HCFA has established a hotline 301-597-5128 to handle questions about PROs. The number is the same as for HHS's prospective pricing hotline.

* * * *

Democrats Challenge Reagan On Medicare

Complaining that President Reagan is asking America's 30 million Medicare beneficiaries to "buy a pig in a poke," Sen. Edward Kennedy (D-MA) and some of his fellow Democrats are challenging the administration to respond before the November elections to the recommendations of a task force which studied Medicare's financial difficulties.

Several Democrats offered alternative proposals at a hearing of the House Ways and Means health subcommittee September 13. Congressional Budget Office officials who earlier had predicted that Medicare's hospital trust fund would be bankrupt by the end of the decade, reported that they now believe the program will remain solvent until "sometime in the mid 1990s."

Headed by former Indiana Gov. Otis Bowen, the Medicare Commission was officially known as the Social Security Advisory Committee. Its recommendations were officially published early this year. Some of them reflect current administration policy, but the President and HHS officials have declined to take a position on the report as a whole on grounds that further public debate is needed.

Among the group's most controversial recommendations are proposals to: restructure cost-sharing; add a Medicare hospital surcharge to the Part B premium; pay physicians according to a negotiated fee schedule; tax a portion of

employer-paid health insurance premiums; and increase excise taxes on alcohol and tobacco. The council opposed increased payroll taxes or the use of general revenues to finance Medicare.

Kennedy, along with Rep. Richard Gephardt (D-MO), sought the Ways and Means subcommittee's support for their own "Medicare Solvency and Health Care Financing Reform Act of 1984" and rejection of the Bowen commission's recommendations. Rep. Don Bonker (D-WA) urged enactment of his bill to reduce Medicare cost-sharing for beneficiaries who agreed to pay an extra premium. Rep. Fortney Stark (D-GA) called for increases in the federal excise tax on cigarettes. The American Medical Association opposed the Kennedy-Gephardt proposal and supported some of the Bowen committee's recommendations as short term solutions until longer range reforms can be agreed upon and implemented.

Favored by representatives of the elderly and labor, the Kennedy-Gephardt plan would cap each state's revenues for hospital inpatient services. A federal plan would take effect in states that did not develop their own cost control plans. The federal program would extend Medicare's diagnosis related groups to inpatient physician services and to all payers.

Claiming that his proposal will "change the worsening trillion dollar Medicare deficit to a $160 billion surplus" without "reducing Medicare benefits or raising Medicare taxes," Sen. Kennedy chastized the President for Medicare cuts he said will reduce Medicare benefits by an average of $1,000 per beneficiary over the next five years.

AMA President-elect Harrison L. Rogers Jr., M.D., called for the rejection of the Kennedy-Gephardt plan which he said would "radically restructure payment mechanisms without the benefit of a single demonstration." The Atlanta surgeon added that the bill would result in "rationing of health care services" and could lead to a deterioration in quality of care. The American Hospital Association took a similar stand.

* * * *

Final Regs On 1985 DRGs Released

Compromising with the hospital industry and Congressional critics, the Department of Health and Human Services has issued final regulations that will increase Medicare payments to hospitals in fiscal 1985 by about $300 million more than would have been the case under rules proposed earlier this summer.

The final rules, which govern the second year of Medicare's diagnosis related groups (DRGs) prospective pricing system, also further modify the process for physician certification of the accuracy of the diagnoses in the hospital record. The primary change, however, involves an across-the-board reduction in DRG weights that has been cut from 2.4% in the proposed rules to 1.05% in the final reductions.

While the final regulations more than halves the proposed weight reduction, however, it also somewhat lowers the rate increase proposed earlier. Instead of a single 5.6% rate increase, the final regulations provide for a 5.2% increase in the federal portion (50% in 1985) of the Medicare payment and increases ranging from about 5.9% to 6.4% in the remaining hospital specific portion of the rate.

Published in the August 31 *Federal Register*, the final regulations also make further changes in the physician certification process which has been bitterly opposed by physicians since it first appeared in the final first-year DRG regulations published in January. Second-year regulations proposed in July made several changes aimed at reducing physician objections but many of the 4,000 comments received on the proposed rule were still dissatisfied with the certification proposal.

The July changes: removed from the hospital record a statement warning the physician of the consequences of a falsified record; required physicians' signatures on an annual statement acknowledging awareness of the penalties of fraud; required hospital certification on each claim that the signed statement was on file; and retained a modified requirement that the physician sign on each hospital discharge statement a statement attesting to the accuracy of a "narrative description" of the "principal and secondary diagnoses and major procedures performed."

The final rules retain the requirement that each record include the physician's signed attestation of accuracy. However, the hospital may now place the statement in any portion of the record. The signed fraud statement will still be filed, but the hospital need not include assurance of its existence on each claim. The narrative record may be generated by the hospital record-keeping department rather than the physician.

* * * *

Drug Law Signed By President Reagan

President Reagan signed into law a measure that eases the approval of generic products, yet protects the patent of brand name products. The Drug Price Competition and Patent Term Restoration Act of 1984 will go into effect in November.

The legislation has implications for physicians and their patients because it is expected to:

★ Increase the number of low-price generic drugs by streamlining FDA's approval process. Generic manufacturers will no longer be required to submit detailed animal studies for drugs that are chemically equivalent to brand name products already on the market.

★ Stimulate the development of important brand name products by giving drug makers longer patents for new discoveries and hence increases the economic incentive to invest in research.

* * * *

AMA Efforts Help Defeat Heroin Legalization Bill

The House of Representatives in September defeated legislation that would have permitted heroin to be given to cancer patients dying in intractable pain.

The bill, voted down 355 to 55, would have established a program to provide the drug through a limited number of pharmacies on the written prescription of a licensed physician. Distribution would have been limited to hospital and hospice pharmacies and to terminally ill patients.

The opposition by the medical community—led by the AMA, with the support of American Society of Anesthesiologists, the American Society of Internal Medicine, the American College of Physicians and the Association of American Colleges—was a key factor in the bill's defeat.

The issue galvanized the floor of the House, consuming over four hours of emotional debate by dozens of members. Those supporting the bill recounted stories of agonizing deaths by relatives and colleagues; those opposed to its passage predicted that drug pushers would use congressional endorsement to convince unknowing school children.

The medical community has long argued that doctors should be better educated about the use of existing drugs rather than offered additional substances. When using pain-relief drugs for terminal cancer patients, many physicians tend to use too little, too late, and not enough at the end.

Also opposed to the bill were those who would monitor its use and abuse: the Department of Health and Human Services, the Department of Justice, and the Drug Enforcement Agency.

Heroin use in pain treatment has been illegal in the U. S. since 1924. It is widely used in treating cancer, however, in at least 39 other countries. In Great Britain, its use in treating severe pain has tripled in the last decade.

Also defeated was an amendment which would have strengthened the law enforcement provisions of the bill, increasing creminal penalties for diversion and establishing a board of physicians to review any decision to use the drug.

* * * *

New Drug Approvals

The Food and Drug Administration approved the first antibiotic which actually eliminates the cause of bacterial resistance rather than simply boosting drug stability to bacterial attack.

FDA also approved a drug that improves blood flow through the plague-lined arteries of the arms and legs which should be available to physicians by October.

The new antibiotic, Augmentin (Beecham Labs), combines amoxicillin with potassium clavulanate. The potassium clavulanate eliminates a major cause of resistance, the beta-lactamase. The amoxicillin, with a second wave of action, kills the infection-causing organism.

The antibiotic combination combats a broad range of infection-causing bacteria implicated in sinusitis, lower respiratory infections and children's middle ear infections. Resistance to these bacteria has seriously impeded treatment.

Drug researchers traditionally try to combat the resistance problem by developing antibiotics such as the second and third generation cephalosporins, which show improved stability to attack by beta-lactamase.

The Augmentin strategy is different; the potassium clavulanate, with its high affinity for beta-lactamase, destroys the enzyme. The amoxicillin is then free to attack the bacteria. As a result, organisms which had developed resistance to amoxicillin due to beta-lactamase production are once again vulnerable.

The new drug for blood flow pentoxifylline, will be sold under the trade name Trental by Hoeschst-Roussel Pharmaceuticals Inc., of Somerville, NJ. It is expected to aid the roughly 1 million Americans afflicted with intermittent claudication, a condition caused by restricted

blood flow to the extremities. The pain caused by lack of oxygen makes walking or other exercise extremely painful. The disease results not only from narrowing of the arteries but also from abnormal rigidity of the blood cells, increasing blood viscosity. In the past, little could be done to improve this type of circulatory problem.

However, pentoxifylline restores lost flexibility to rigid blood cells, enabling them to squeeze through small capillaries and supply oxygen to muscles. The drug is not intended to replace more definitive therapy, such as surgical bypass or removal of arterial obstructions. A total therapeutic regimen—combining the drug with walking, weight control, and a smoking cessation program—is recommended. Side effects such as upset stomach, nausea, dizziness, and headache may be noted.

While patients may feel benefits within 2 to 4 weeks, they should continue taking the medication for at least 8 weeks. Continued treatment may show additional improvement.

* * * *

Congress Passes 'Baby Doe' Bill

Both houses of Congress passed a "Baby Doe" bill agreed to earlier in the month by members of a joint House-Senate conference and sent the measure to the President for his signature.

The bill, a compromise between versions passed by the House and Senate earlier this year, calls for the Department of Health and Human Services to draw up regulations setting guidelines for mandatory treatment of handicapped infants.

Treatment guidelines, the centerpiece of the bill, say that care should be withheld only when:

- ★ the infant is chronically and irreversibly comatose,
- ★ treatment would not correct all of the infant's life-threatening conditions,
- ★ treatment would merely prolong dying, or
- ★ treatment would be futile and inhumane

Thus, it does not require unending treatment when an infant is doomed to die, regardless of medical efforts. Nor does it require that physicians perform surgery for correctable defects, when another defect is lethal and untreatable. It also gives the parent the freedom, say the bill's sponsors, to make a "judgment call" when the child has little chance for survival.

However, it requires physicians to treat correctable defects without regard for the child's other handicaps.

State, not federal, governments would be responsible for ensuring that an infant is treated and fed. States would be required to set up a system of hospital representatives to report instances of medical neglect. States failing to comply would lose part of their child abuse funds.

The AMA resisted passage of the bill, saying it would require states "to intervene and second-guess the individual medical decisions made by parents, in consultation with physicians."

* * * *

HHS Refuses Deadline Extension On Medicare Sign-up; AMA Sues

On September 20, the American Medical Association sent a telegram to Health and Human Services Secretary Margaret Heckler again calling for a delay in the government's deadline for physicians to sign up to "participate" in Medicare under the new Deficit Reduction Act.

"Physicians across the country have not been advised of their pattern of charges . . . nor have physicians been advised of the prevailing and customary charges which will determine their Medicare reimbursement and which must be known in order to decide whether to participate," AMA told Heckler. "There are thousands of physicians who cannot make an informed choice by October 1 whether to sign participating agreements nor can they be certain that they are in compliance with the freeze itself."

HHS lawyers replied that they didn't agree; that physicians have had plenty of opportunity to get the information they need to make the decision.

So the next day the AMA filed suit in the federal district court in Indianapolis along with a request for a preliminary injunction to stay the October 1 deadline. The plaintiffs, in addition to AMA, are the Indiana State Medical Society and several physicians and Medicare beneficiaries from Indiana.

On Friday, September 28, the court denied the request for a temporary injunction to stay implementation of the October 1 deadline. However, Judge Sara Evans Barker did grant limited relief by extending the deadline to October 15 for physicians who had failed to receive as of September 28 complete Medicare information they had requested from Medicare carriers. The extension applies only to AMA or Indiana State Medical Association members.

A hearing on the main AMA suit challenging

the constitutionality of certain provisions in the Deficit Reduction Act is expected to be scheduled soon.

* * * *

AIDS Is A Political Football

AIDS has become a favorite item of debate in Washington and a political football used by both the Reagan Administration and its Democratic critics on Capitol Hill.

The most recent dispute concerns research funding. Rep. Henry Waxman (D-CA) and city health officials in September demanded that more money be authorized to develop a blood test and vaccine for AIDS. Health and Human Services Secretary Margaret Heckler, on the other hand, contended that AIDS funding should come from other programs in the Public Health Service budget.

Rep. Waxman, who represents many gay voters in his southern California District, calls the Administration policy "negligent" and "reckless." "The result of such shortsightedness will only be a longer epidemic and longer deaths," he predicted in recent hearings of the Health Subcommittee.

HHS Secretary Heckler counters that fund-shifting is "the most effective way of providing additional resources for AIDS quickly.

The squabble began last May when HHS Assistant Secretary for Health, Edward N. Brandt, Jr., M.D., asked Secretary Heckler to request from Congress $20 million in additional funds. On August 8, Dr. Brandt received a letter saying his request for more money had been rejected. "With resources currently available to the Public Health Service, I direct you to carry out the most important projects of direct relevance to AIDS as soon as possible," Secretary Heckler instructed.

The Administration opposed new AIDS funds last year as well. Despite unanimous House approval and strong support in the Senate, the Office of Management and Budget opposed the addition of $12 million in new money and instead recommended that AIDS research funds be transferred from other programs within HHS.

Rep. Waxman, a longtime critic of the Republican Administration, has been particularly visible in his push for more AIDS funding.

Meanwhile, refuting allegations that it is moving too slowly against AIDS, the Reagan Administration is pushing ahead in its efforts to transform basic research findings into actual medical tools to fight the disease. Private research companies were given only 10 days to get their applications in for HTLV-III infected cells, which are needed to mass produce the virus and develop a blood test. Of 20 applicants, 5 were chosen to develop and distribute a blood test: Abbott Laboratories, Electro-Nucleonics Inc., Litton Bionetics, Inc., Travenol/Genetech Diagnostics, and DuPont Inc., with the collaboration of Biotech Research Labs.

Some companies already are testing blood at the rate of 1,000 or so samples a day and have produced assays that take only hours to complete. Panels of sera, with varying levels of antibodies to HTLV-III, have been distributed by HHS to companies. Controlled studies using the sera will determine the tests sensitivity and specificity to the AIDS antibody.

Based on their findings, HHS will determine whether to license a test for commercial production. Blood banks will then decide which test is best suited for their needs.

The search for an AIDS vaccine is also moving at a fast clip. HHS officials are reportedly designing the criteria that must be met if a company wants access to the government's supply of HTLV-III cells. A number of companies which failed to win licenses for blood test production are said to be anxiously awaiting the chance to win rights for vaccine production.

* * * *

NAS Report On Premature Death For Survivors

Epidemiological studies now confirm what has long been suspected: the death of a spouse or close family member may result in premature death for survivors, according to a National Academy of Sciences report completed this month.

The 312-page volume, prepared after a two-year review of research studies and various institutions, is believed to be the nation's most comprehensive look at the bereavement process.

A number of studies reviewed in the report suggest that bereavement may enhance vulnerability to:

★ Cardiac arrest. Sudden cardiac death, cardiac arrhythmias, myocardial infarction, and congestive heart failure are the most frequently mentioned conditions following the death of a close family member.

★ Infectious disease. Grief—like stress, depression and panic disorder—may influence the body's hormonal milieu and cell-mediated immune

mechanisms. Thus, by compromising the immune system, grief may alter the body's resistance to infectious agents.

★ Neoplastic disease. Alternations in hormonal milieu following bereavement may have clinical importance to hormone-sensitive cancers such as estrogen-dependent breast cancer and testosterone-dependent prostatic cancers. Further studies are needed of ovarian, testicular and adrenal hormone regulation in bereavement and of the hypothalamic-pituitary stimulating hormones that control these target glands, the report states.

★ Suicide. In some persons, the lonely circumstances of widowhood may predispose them to suicide. Others may have pre-existing characteristics, such as alcoholism or depression, that predispose them to kill themselves.

Some individuals are at greater risk than others following the death of a loved one, the report notes. Young and middle-aged widowers are most vulnerable to disease during the first year after death of a spouse and continue to be vulnerable for as long as six years if they do not remarry.

In general, bereavement reactions are more intense and have more enduring consequences for young people, particularly children in their early teens. Girls under 11 years who lose their mothers and adolescent boys who lose their fathers are at particular risk.

Persons who are physically or mentally ill before a bereavement are more likely to be ill after it; alcoholics more likely than non-alcoholics will be doing poorly one year after bereavement.

* * * *

New Cigarette Warning Label Set

Overcoming internal dissent, both the House and Senate this month passed new and explicit warning labels that stress the risks of cigarette smoking.

The measure was sent to the White House to be signed by President Reagan and will take effect one year after passage.

Once every three months, a package would contain a different warning: "Smoking causes lung cancer, heart disease, emphysema, and may complicate pregnancy"; "Quitting smoking now greatly reduces serious risks to your health"; "Smoking by pregnant women may result in fetal injury, premature birth, and low birth weight"; and "Cigarette smoke contains carbon monoxide."

In addition, the law would require manufacturers to tell the Department of Health and Human Services what additives their cigarettes contain.

Abandoned were warnings of "addiction, death, and miscarriages," strongly opposed by the tobacco industry.

AMERICAN PORPHYRIA FOUNDATION

An American Porphyria Foundation has been formed. The Foundation offers general information, research updates, sources of expert testing and medical advice. Write the American Porphyria Foundation, Post Office Box 11163, Montgomery, Alabama 36111.

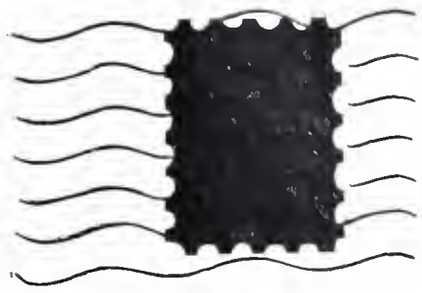
PHYSICIANS MARTIAL ARTS ASSOCIATION

The PMAA, a national organization founded in 1973 by Millard Seto, M.D., is being reactivated. Membership is open to all physicians of any rank in all types and styles of martial arts. The purposes are: (1) to promote the cause of martial arts medicine; (2) to make qualified physicians available to all martial arts organizations as medical advisors; (3) to put physicians with an interest in the martial arts in contact with each other; (4) to conduct courses for instructors in the martial arts to provide basic knowledge in how to recognize and handle martial arts injuries; and (5) to utilize skills as physicians to promote the martial arts and their basic precepts of honor, humility, courtesy and respect. For more information, write PMAA, Post Office Box 2175, Honolulu, Hawaii 96805.

Announcement

The Southwest Allergy Forum, which is sponsored by the San Antonio Allergy Society, will be held May 31, 1985 through June 3, 1985, at the Four Seasons Plaza Nacional Hotel in San Antonio, Texas. This three day conference will consider clinical aspects of allergy management including such topics as headaches, hymenoptera and fire ant sensitivity, house dust mites, theophylline and Beta 2 agents, chymopapain sensitivity, computers in practice and the changing role of the allergist. The registration fee will be $110.00 and 9 hours of CME credit will be offered.

For more information, please contact Dr. Paul Ratner at 601 Oak Hills Medical Building, San Antonio, Texas 78229.



ing technology be appropriately selected to properly identify that proportion of patients with symptoms of cerebral ischemia who are ammenable to surgical correction.

Sincerely yours,
Robert W. Barnes, M.D.
Professor and Chairman
Department of Surgery
University of Arkansas for Medical Sciences

LETTERS TO THE EDITOR

October 3, 1984
Alfred Kahn, M.D.
Editor, Journal of the Arkansas Medical Society
1300 West 6th Street
Little Rock, AR 72201

Dear Dr. Kahn:

I appreciate the critical comments of Drs. Mawk and Brown in response to my article on Advances in Management of Peripheral Vascular Disease published in the Journal of the Arkansas Medical Society, 81:90-93, 1984. They correctly point out some of the limitations of *intravenous* digital subtraction angiography. However, in my article I emphasize that my reliance on the intravenous route for planning extracranial carotid surgery occurs only in the instance of objective documentation of high-grade carotid lesions by direct carotid noninvasive studies. They point out that they explored a normal carotid artery following intravenous digital study. However, this circumstance could have been avoided had they used noninvasive diagnostic screening with direct carotid Doppler or echo assessment of the carotid prior to the intravenous arteriogram.

I would agree that CT scan plays an important role in certain instances of ambigious cerebral symptoms or stroke. However, routine CT scan for all patients with classic ocular or hemispheric transient ischemic attacks has not been shown to be cost-effective. I would reserve CT scan for instances in which a patient with ocular or hemispheric symptoms does not have an appropriate localized high grade extracranial carotid lesion by noninvasive study. In such circumstances I would agree that a CT scan and intra-arterial angiography are indicated.

Finally, I would concur with Drs. Mawk and Brown that intelligent use of our rapidly expand-

THINGS TO COME

January 12-13

Trauma and the Acutely Ill Patient: Imaging Update. Radiology Research and Education Foundation and Extended Programs in Medical Education at the University of California School of Medicine, San Francisco, are the sponsors. 11½ hours Category 1 AMA. Fee $250. Fairmont Hotel and Tower, San Francisco. For further information, call 415-666-5731.

January 26

Reception for Arkansas Orthopaedic Alumni Society. 6:30 p.m. to 8:30 p.m. Palace 4 Room of the MGM Grand Hotel, Las Vegas, Nevada.

March 11-15

Twenty-Eighth Annual Postgraduate Course in Diagnostic Radiology. Department of Radiology and Extended Programs in Medicine Education, University of California School of Medicine, San Francisco, and the Radiology Research and Education Foundation are sponsors. 33 hours Category I, AMA. Fairmont Hotel, San Francisco. For more information, call 415-666-5731.

March 22-24

Cardiology for the Primary Care Physician. University of California, San Diego School of Medicine, La Jolla. Palm Springs Spa Hotel, Palm Springs, California. 18 hours AMA/CMA, Category 2-D AOA. For more information, contact Continuing Medical Education Office, M-017, University of California, San Diego School

of Medicine, La Jolla, California 92093; telephone 619-452-3940.

March 25-29

Family Practice Refresher Course—1985. University of California, San Diego School of Medicine, La Jolla. 30 hours AMA/CMA, Prescribed AAFP, Category 2-D AOA. For more information, contact Continuing Medical Education Office M-017, University of California, San Diego School of Medicine, La Jolla, California 92093; telephone 619-452-3940.

April 18-21

109th Annual Session of the Arkansas Medical Society. Theme: Health Care Issues 1985. Arlington Hotel, Hot Springs.

May 30-June 1

Forty-Seventh Annual Meeting of the Louisiana-Mississippi Ophthalmological and Otolaryngological Society. Broadwater Beach, Biloxi, Mississippi. 8 hours Category I, AMA. For further information, contact Ben A. Davis, Jr., CAE, Post Office Box 12314, Jackson, Mississippi 39211; telephone 601-956-7787.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

BILIARY TRACT OBSTRUCTION

Presented by Walter Scott Brooks, Jr., M.D., Associate Professor of Internal Medicine, Emory University Clinic, Atlanta, Georgia, *January 8, 7:00 p.m.,* Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. Sponsored by Baxter County Regional Hospital.

EVALUATION AND THERAPY OF PROSTATIC CANCER

Presented by David P. Gray, M.D., Oncologist and Hematologist, Jonesboro, Arkansas, *February 19, 7:00 p.m.,* Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. Sponsored by Baxter County Regional Hospital.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category 1 credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.
Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.

ICU Lecture Series, second Friday, 1:30 p.m., V.A. Medical Center.
Peer Exchange, February: "Hematology."

JONESBORO — AHEC-NORTHEAST

Weekly Medical Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Interesting Case Conference, second Tuesday and fifth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Neurology Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Primary Care Seminar, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Surgery Conference, each Monday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Classroom 3, Education Wing.
Pediatrie Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Gynecology Conference, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Hospital in January; St. Vincent Infirmary in February.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Classroom 1, Education Wing.
Neuropathology Conference, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S1174K, Laboratory.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Cancer Conference, fourth Thursday, 12:00 noon to 1:00 p.m., Room S1174K, Laboratory.

PINE BLUFF — AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.



PERSONAL AND NEWS ITEMS

1985 CONVENTION EXHIBITS

Dr. Darrell Bonner of Paragould, chairman of the Scientific Exhibits Committee, encourages members of the Society to consider having a scientific display at the Society's annual convention. The meeting will be held April 18-21 at the Arlington Hotel in Hot Springs.

Exhibiting hours will be 10:00 a.m. to 5:00 p.m. on Thursday, April 18, 8:00 a.m. to 1:00 p.m. on Friday, April 19, and 8:00 a.m. to noon on Saturday, April 20. The racing season at Oaklawn continues through April 20; there will be no scheduled general functions on either Friday or Saturday afternoon of the convention.

Applications for exhibit space may be obtained from the headquarters office in Fort Smith (telephone number outside Fort Smith 1-800-542-1058).

ACP FELLOWS

The American College of Physicians has announced that Dr. Jack L. Blackshear, Jr., and Dr. William J. Morton, both of Little Rock, have been elected to Fellowship in the 60,000-member national medical specialty society. Both specialize in Gastroenterology.

MAGNETIC RESONANT IMAGER

There is one Magnetic Resonant Imager in Arkansas and probably less than 100 in the world. The $2 million machine has been installed by Radiology Associates in the Freeway Medical Building at 5810 West Tenth Street in Little Rock. Members of the Radiology Associates group offer a program on the Magnetic Resonant Imager to any interested group. Contact Dr. Joe Norton at 664-3914.

DR. MURRY ELECTED TO BOARD

Dr. J. Warren Murry of Fayetteville was elected governor-at-large from Arkansas to the Board of Governors of the American College of Surgeons during the recent annual meeting of the College.

NEW PHYSICIANS IN MOUNTAIN HOME

Drs. Karen and Steve Soltys have joined the Ozark Regional Mental Health Center, working in the Harrison and Mountain Home offices. Both physicians specialize in Psychiatry.

DRS. GEORGE AND STAINTON

Drs. F. Joseph George and Joseph C. Stainton of Jonesboro examined individuals over age 35 for the seventh annual Free Glaucoma Screening program of the Imboden Lions Club.

SEMINAR SPEAKERS

El Dorado physicians participated in the program for a Women's Seminar sponsored by the Union Medical Foundation and the Union Medical Center's Health Education Department. Dr. Diana T. Jucas spoke on "Mammography"; Dr. Peter J. Carroll spoke on "Facts and Fears of Breast Self-Examination"; Dr. Srini Vasan spoke on "New Treatment Methods in Breast Cancer"; Dr. John B. Ratcliff spoke on "The Reality of Premenstrual Syndrome"; and Dr. Aubry Talley spoke on "Preventive Approaches in Gynecology."

MORRILTON GAINS PHYSICIANS

Dr. Robert Wilkerson has opened an office for the practice of medicine at One Hospital Drive in Morrilton. Dr. Christina Wilkerson, a Radiologist, has joined the staff at the Conway County Hospital.

DRS. WILSON AND BALDRIDGE ARE SPEAKERS

Drs. F. M. Wilson and John Baldridge of Jonesboro were speakers at a recent meeting of the Northeast Arkansas Emergency Medical Technician Association. Dr. Wilson spoke on pneumothorax and hemothorax; Dr. Baldridge spoke on diabetic ketoacodosis.

DR. SWINGLE SPEAKER

Dr. C. G. Swingle of Marked Tree was the guest speaker at a meeting of the Heber Springs Chapter of the Full Gospel Business Men's Fellowship International.

DR. THOMPSON ELECTED PRESIDENT

Dr. A. J. Thompson of Little Rock is the newly-elected president of the Arkansas Affiliate of the American Heart Association. Other officers are Dr. J. B. Norton of Little Rock, president-elect; Dr. F. Anthony Bennett of Little Rock, vice-president.

Appointments were also made to the Board: Dr. James K. Cornett and Dr. George Norton from Little Rock, Dr. J. Campbell Gilliland from Fort Smith, Dr. Kimber Stout from North Little Rock, Dr. Marvin Leibovich from Benton and Dr. Roger Hill from Jonesboro.

RECEPTION IN HOME

A reception was given in the home of Dr. and Mrs. Charles Harden of Hope in honor of Dr. and Mrs. George Finley, Dr. and Mrs. Roger Murray

and others who have joined the Hope medical community. Other co-hosts were Dr. and Mrs. James Branch, Dr. and Mrs. Leland Dodd, Dr. and Mrs. Dale Goins, Dr. and Mrs. Lowell Harris, Dr. and Mrs. Jim McKenzie, Dr. and Mrs. David Stevens, Dr. and Mrs. Asa Warmack and Dr. and Mrs. George Wright.

DR. CAMP HONORED

Dr. Arthur Camp of Hazen was honored with a "This is Your Life" program during the Prairie County Rice Festival. Dr. Camp was recognized and honored for his 13 years of dedicated service to the community.

DR. BERRY SPEAKS

Dr. Robert Berry of Little Rock presented a slide program on Ophthalmology at a meeting of the Beebe Lions Club.

DR. WILSON RECEIVES AWARD

Dr. Larkin M. Wilson of El Dorado was awarded the 1984 Robert Shields Abernathy Award for Excellence in Internal Medicine at the recent Arkansas regional meeting of the American College of Physicians.

OFFICERS INSTALLED

Dr. Joe B. Hall of Fayetteville serves as the president of the Arkansas Chapter of the American College of Physicians. The Arkansas Chapter of the American College was officially formed during an October meeting at Red Apple Inn. Other Chapter officers are: Dr. Taylor Prewitt of Fort Smith, vice-president; Dr. Arthur Moore of Fayetteville, secretary; and Dr. Philip Duncan of Fayetteville, treasurer.

DR. SCHWARTZ IN SEARCY

Dr. Stanley S. Schwartz, an Orthopaedic Surgeon, has returned to the Searcy Medical Center. Dr. Schwartz was associated with the Center from 1965 to 1970.

DR. CAGLE SPEAKS

Dr. Roger Cagle of Paragould spoke on Preventive Health and Handicaps at a meeting of the Rector Migrant Head Start and Home Base parents.

DR. BURNS LOCATES

Dr. Terry Burns has joined the Calhoun County Clinic in Hampton for the practice of Family Medicine.

DR. HUGHES GIVES PROGRAM

Dr. Joe Hughes of Walnut Ridge presented a program on the use of hypnosis at a meeting of the Lawrence County Health Unit Advisory Committee.

DR. WILSON SPEAKS

Dr. Steve Wilson of Fort Smith spoke at the annual meeting of the South Central Section of the American Urological Association. Dr. Wilson discussed implantation of the inflatable penile prosthesis.

DR. JOHNSON ELECTED TO FELLOWSHIP

Dr. Stacey Johnson of Mountain Home has been elected to the Fellowship of the American College of Cardiology.

CANCER SPEAKERS BUREAU

The American Cancer Society recently recognized seventy-five physicians who volunteered for the Cancer Society speakers bureau. Dr. Bill Tranum was credited with enlisting many of the volunteers for the speakers bureau.

DR. DELUCA OPEN HOUSE

Dr. Russell Deluca recently held an open house in his remodeled offices at Corning. His office is located in the Page Clinic Building.

DR. SHRINER SPEAKS

Dr. Walter Shriner of Hot Springs Village was the guest speaker for a recent meeting of the Village Breakfast Lions Club. He discussed the history of navigation.

DR. HART CHIEF

Dr. Hamilton Hart is the newly-elected chief of staff at the Fayetteville City Hospital. Dr. Hart is a family physician.

PROGRAM SPEAKERS

Drs. David Gray, James Sanders and Bill Garner of Jonesboro were members of a panel for a Jonesboro television show, "About Breast Cancer," sponsored by St. Bernard's Regional Medical Center.

DR. TUCKER KEY NOTE SPEAKER

Dr. R. Stephen Tucker of Little Rock was the keynote speaker at the 40th annual meeting of the Arkansas Division of the American Cancer Society.

DR. FISHER IN NEWPORT

Dr. Timothy Fisher, a graduate of the Kansas City Osteopathic Medical School, has opened his office in Newport for the practice of Family Medicine.



OBITUARY

DR. CARNEY FITZGIBBON

Dr. Carney Fitzgibbon died October 31. He was born September 25, 1927, in Little Rock.

Dr. Fitzgibbon was a graduate of the Ouachita Baptist College in Arkadelphia and a 1958 graduate of the University of Arkansas School of Medicine. He was retired from the United States Navy as a flight surgeon.

He practiced medicine in Little Rock until his retirement in 1968.

Dr. Fitzgibbon is survived by his mother, Mrs. Creacy Etta Fitzgibbon, and his two brothers, Dr. Roderick Fitzgibbon of West Memphis and Dr. Rodney Fitzgibbon of West Columbia, South Carolina.

DR. ULYS JACKSON

Dr. Jackson of Harrison died October 29. He was born August 5, 1905.

He was a member of an early Boone County family.

He was a 1933 graduate of the University of Arkansas School of Medicine. His internship was with the Christian Hospital in St. Louis. Dr. Jackson began his practice of medicine in Harrison in 1934. He was one of the founders of the Boone County Hospital and a former chief of staff of the hospital. The Harrison Chamber of Commerce started an annual "Dr. Jackson Day" after the physician retired from medical practice in 1979.

Dr. Jackson served as commanding medical officer of the 853 Engineer-Aviation Battalion in India during World War II. He retired as a major.

Dr. Jackson was a life member of the Boone County Medical Society, the Arkansas Medical Society and the American Medical Association. He was also a member of the American Medical Society of Anesthesiologists, the Boone County Historical and Genealogical Society, and the Sons of the American Revolution. He was a deacon of the First Christian Church in Harrison.

He is survived by his wife, Mary Ruth Simpson Jackson, and two daughters.



NEW MEMBERS

DR. K. LAMAR HOWARD

Dr. Howard has joined the Benton County Medical Society. He was born in Memphis, Tennessee.

He received a Bachelor of Arts degree in Zoology in 1973 from the University of Arkansas in Fayetteville and was graduated from the University of Arkansas College of Medicine in 1977. His Family Practice residency training was with the Area Health Education Center in Fayetteville from 1977 to 1980. Dr. Howard is board certified in Family Practice.

Dr. Howard specializes in Family Practice. He is associated with the Rogers Medical Center at 1040 West Walnut in Rogers.

DR. GUY W. HEDER

Dr. Heder, a native of Monterey Park, California, has joined the Chicot County Medical Society.

He served with the United States Navy from 1942 to 1945.

Dr. Heder received his pre-medical education at East Los Angeles Junior College and the University of California at Los Angeles. He was graduated from the Temple University School of Medicine in Philadelphia, Pennsylvania, in 1956. His internship was with the Southern Pacific Hospital in San Francisco.

He was in private practice in Southern California from 1957 to 1959 and in Hawaii from 1959 to 1984. Dr. Heder served as a Preceptor at the University of Hawaii School of Medicine. He is a fellow of the American Academy of Family Physicians.

Dr. Heder specializes in General Practice. He is associated with the Portland Health Care Center in Portland.

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The Jefferson County Medical Society has three new members:

DR. SIMMIE ARMSTRONG, JR.

Dr. Armstrong, a native of Parkdale, is a 1977 graduate of the University of Arkansas at Monticello and a 1981 graduate of the University of Arkansas College of Medicine.

He served his internship and residency in Family Practice at the Area Health Education Center in Pine Bluff.

Dr. Armstrong specializes in Family Practice. His office is located at 1716 Doctor Drive in Pine Bluff.

DR. EVANGELINA C. ATKINSON

Dr. Atkinson was born in Sanderson, Texas. Her pre-medical education was with Texas Tech University. She is a 1980 graduate of the University of Texas Medical School in San Antonio.

Dr. Atkinson served a Flexible internship and an Anesthesiology residency with the University of Arkansas College of Medicine.

Dr. Atkinson specializes in Anesthesiology. Her office is located at 1402 West 42nd in Pine Bluff.

DR. ISHMAEL S. REID, JR.

Dr. Reid is a native of Pine Bluff. He was graduated from Southern Illinois University in 1970 and from the University of Arkansas College of Medicine in 1974. His internship and residency training were with the University of Arkansas Medical Center.

Dr. Reid served as a United States Air Force Flight Surgeon from 1976 to 1978. He is a Clinical Assistant Professor of Medicine at the Area Health Education Center in Pine Bluff and on the Board of Directors of the Jefferson County American Red Cross and American Cancer Society. Dr. Reid is certified in Internal Medicine.

Dr. Reid specializes in Hematology and Oncology. His office is in the Medical-Dental Associates Building at 817 Cherry Street in Pine Bluff.

DR. HARVEY W. CLEWANS

Dr. Clewans has joined the Mississippi County Medical Society. He was born in San Francisco.

He received his pre-medical education at the University of California at Berkeley. Dr. Clewans is a 1974 graduate of the Faculty of Medicine and Surgery, University of Bologna in Italy.

Dr. Clewans served his internship at Downstate Medical Center and Kings County Hospital in Brooklyn, New York. His residency training in Diagnostic Radiology was with Nassau Hospital in Mineola, New York. He is board certified in Radiology.

Dr. Clewans practiced for seven months in Tucson, Arizona. While in Tucson, he served as staff radiologist at the Kind Community Hospital, the El Dorado Hospital and St. Mary's Hospital.

Dr. Clewans is serving as Chief of the Department of Radiology at the Chickasawba Hospital in Blytheville and the Osceola Memorial Hospital in Osceola.

DR. JAMES H. HUDSON

Dr. Hudson, another new member of the Mississippi County Medical Society, was born in Alamo, Tennessee.

His pre-medical education was with the Union University in Jackson, Tennessee, and the Murray State University in Murray, Kentucky. Dr. Hudson is a 1981 graduate of the University of Tennessee Center for Health Sciences in Memphis. His internship and residency were with the same institution.

Dr. Hudson specializes in Internal Medicine. His office is located in the Osceola Professional Building at 602 West Union.

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The Pulaski County Medical Society has three new members:

DR. WILLIAM E. GOLDEN

Dr. Golden is a native of Brooklyn, New York. He was graduated from the Brown University in Providence, Rhode Island, in 1975 and from the Baylor College of Medicine in Houston, Texas, in 1978.

Dr. Golden trained in Internal Medicine at the Rush-Presbyterian-St. Luke's Medical Center in Chicago, Illinois, serving as Chief Resident of the Department of Medicine at Rush Medical Center in 1982. Dr. Golden was a Robert Woods Johnson Clinical Scholar at the University of Pennsylvania from 1982 to 1984. He is board certified in Internal Medicine.

Dr. Golden specializes in Internal Medicine. He is associated with the University of Arkansas College of Medicine at 4301 West Markham in Little Rock.

DR. WILLIAM L. RUTLEDGE

Dr. Rutledge, a native of Little Rock, was graduated from Texas Southern University in Houston in 1975 and from Meharry Medical College in Nashville in 1979. Dr. Rutledge served his internship and residency in General Surgery at Meharry Medical College.

Dr. Rutledge specializes in General Surgery.

His office is located at 5810 West 10th in Little Rock.

DR. KAREN S. SEALE

Dr. Seale was born in Lamesa, Texas. She is a 1972 graduate of the University of Texas at San Antonio and a 1977 graduate of Texas Tech University School of Medicine in Lubbock. Her internship and residency training in Orthopaedic Surgery were with the University of Arkansas College of Medicine.

She is an Assistant Professor with the Department of Orthopaedic Surgery at the University of Arkansas College of Medicine and is serving as Head of the Section of Trauma.

Dr. Seale specializes in Orthopaedic Trauma and Foot Surgery at the University Medical Center, 4301 West Markham in Little Rock.

DR. EVE J. WISEMAN

Dr. Wiseman has joined the Washington County Medical Society. She was born in Madison, Wisconsin.

Dr. Wiseman received her pre-medical education at Vanderbilt University in Nashville and the University of Kentucky in Lexington. She is a 1980 graduate of the University of Kentucky College of Medicine in Lexington. Dr. Wiseman received one year of training in Family Practice at the University of North Dakota Affiliated Hospitals in Fargo.

Dr. Wiseman served with the National Health Services Corps in Redfield, Arkansas, for two years.

Dr. Wiseman is a General Practitioner. She is associated with Mediquik at 117 East Sycamore in Fayetteville. Dr. Wiseman also does work for Planned Parenthood and the Washington County Health Department and is a volunteer physician at the Washington County Headstart.



ARKANSAS MEDICAL SOCIETY
MEMBERSHIP ROSTER
December 1, 1984



HEADQUARTERS OFFICE:
214 NORTH 12TH STREET
POST OFFICE BOX 1208
FORT SMITH, ARKANSAS 72902
TELEPHONE: 501 782-8218

MEMBERSHIP ROSTER OF THE ARKANSAS MEDICAL SOCIETY 1984

Type of Practice	Member's Name	Address	Telephone Number
	ARKANSAS COUNTY		
FP	Burleson, Stan W	Post Office Box 369, DeWitt 72042	946-1326
FP	Daniel, Noble B	Route 1, Box 21-D, Stuttgart 72160	673-7211
GP	Gordon, Thomas B	Post Office Box 509, DeWitt 72042	946-4646
FP	Guyer, G. L	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Hestir, John M.	Post Office Drawer 512, DeWitt 72042	946-3637
RD	John, Milton C., Jr.	903 Grand, Stuttgart 72160 (Res.)	673-6623
FP	Malloy, Mark J.	Route 1, Box 21-D, Stuttgart 72160	673-7211
GP	McCracken, Elbert A.	509 South Main, Stuttgart 72160	673-8571
GS	Millar, Paul H., Jr	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Morgan, Jerry D.	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Northcutt, Carl E.	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Pritchard, Jack L.	1022 South Main, Stuttgart 72160	673-2331
FP	Rasco, Charles W., Jr.	111 South Jackson, DeWitt 72042	946-3156
FP	Speer, Hoy B., Jr	1708 North Buerkle, Stuttgart 72160	673-2586
R	Speer, Marolyn N	1708 North Buerkle, Stuttgart 72160	673-4776
	ASHLEY COUNTY		
GP	Cothern, William R	Post Office Box 577, Crossett 71635	364-6111
	Edwards, Lawrence E.	Shalimar, Florida	
GP	Garcia, Luis F.	Post Office Box 792, Crossett 71635	364-4181
FP	Gresham, Edward A.	310 North Alabama, Crossett 71635	364-9111
IM	Karrott, Abraham	210 East Lincoln, Hamburg 71646	853-9828
FP	Ripley, Curtis E.	317 North Alabama, Crossett 71635	364-5113
GP	Salb, Robert L.	113 Pine, Crossett 71635	364-2138
FP	Thompson, Barry V	Post Office Box 675, Crossett 71635	364-5746
FP	Toon, D. L.	Post Office Box 595, Crossett 71635	364-8062
FP	Walsh, Benjamin J.	Post Office Box 904, Crossett 71635	364-9111
	BAXTER COUNTY		
GYN	Baker, Robert L	#10 Medical Plaza, Mountain Home 72653	425-2552
FP	Beard, Arthur L.	126 West Sixth, Mountain Home 72653	425-3131
GP	Burnett, Richard L.	Post Office Box 301, Mountain Home 72653	425-3030
IM	Cheney, Maxwell G	Post Office Box 725, Mountain Home 72653	425-3125
NEP	Chock, Daniel P	Post Office Box 786, Mountain Home 72653	425-5535
PD	Chock, Helga E.	Post Office Box 786, Mountain Home 72653	425-5535
AN	Clarke, James S.	449 West North, Mountain Home 72653	425-9484
RD	DeLany, Clarence L.	Route 3, Box 105, West Plains, Missouri 65775	417-256-7898
PTH	Douglas, Donald S.	#14 Medical Plaza, Mountain Home 72653	425-8411
FP	Dunbar, James C.	Post Office Box 410, Mountain Home 72653	425-2020
PTH	Dykstra, Peter C	Route 6, Box 372, Mountain Home 72653	425-9181
R	Fontenot, Edwin, Jr.	Bull Shoals Hospital, Bull Shoals 72619	445-4292
GS	Ford, William H.	Post Office Box 433, Mountain Home 72653	425-9120
FP	Gotaas, Bernice E.	Post Office Box 44, Bull Shoals 72619	445-4755
GS	Guenthner, John F.	126 West Sixth, Mountain Home 72653	425-3131
D	Hardin, Philip R.	Post Office Box 142, Mountain Home 72653	425-7535
GS	Hawkins, Michael L.	#3 Medical Plaza, Mountain Home 72653	425-6988
CD	Johnson, Stacey M.	#3 Medical Plaza, Mountain Home 72653	425-6212
GP	Kelley, Lawrence A.	Post Office Box 299, Bull Shoals 72619	445-4292
FP	Kerr, Robert L.	Post Office Box 706, Mountain Home 72653	425-6971
ORS	Knox, Thomas E.	#19 Medical Plaza, Mountain Home 72653	425-9293
GE	MacKercher, Peter A.	Post Office Box 329, Mountain Home 72653	425-4404
OPH	Massey, James Y.	Post Office Box H, Mountain Home 72653	425-6026
OPH	McGaughey, Allen S	795 Village Mall, Mountain Home 72653	425-2277
R	Roberts, David H	Seventh and Shiras, Mountain Home 72653	425-6322
OPH	Sneed, John W., Jr.	Post Office Box H, Mountain Home 72653	425-6026
GS	Stahl, Ray E., Jr	Post Office Box 433, Mountain Home 72653	425-9120
ORS	Sward, David T	19 Medical Plaza, Mountain Home 72653	425-9293
R	Tullis, Joe M.	Post Office Box 889, Mountain Home 72653	425-9242
GP	Wilbur, Paul F.	Post Office Box 706, Mountain Home 72653	425-6971
FP	Wilson, Jack C.	Post Office Box 725, Mountain Home 72653	425-3125
R	Wilson, M. Carolyn	Post Office Box 373, Mountain Home 72653	425-2398
	BENTON COUNTY		
OBG	Addington, Alfred R	1116 Poplar Place, Rogers 72756	636-0300
AN	Adrian, James A.	Post Office Box 1599, Rogers 72757	636-3840
PD	Allen, L. Barry	1114 Poplar Place, Rogers 72756	636-9234
FP	Arkins, James H.	Post Office Box 669, Bentonville 72712	273-9056
P	Ball, Eugene H	Route 2, Box 53, Rogers 72756	636-8307
GS	Bledsoe, James H	#6 Halsted Circle, Rogers 72756	636-5411
OPH	Boozman, Fay W., III	Post Office Box 1353, Rogers 72757	636-7506
D	Carter, Vernon H.	1301 West Persimmon, Rogers 72756	636-0599
AN	Christman, Daniel E.	Post Office Box 1599, Rogers 72757	636-3840
GP	Clower, John D	Post Office Box 737, Rogers 72757	636-2711
FP	Cohagan, Donald L.	408 North Walton, Bentonville 72712	273-5543
RD	Compton, Neil E.	Post Office Box 209, Bentonville 72712 (Res.)	273-5123
GS	Costaldi, Mario E.	#6 Halsted Circle, Rogers 72756	636-5411
RD	Dean, Lee A.	Route 4, Box 154, Rogers 72756 (Res.)	636-3694
PTH	Denman, David A.	Rogers Memorial Hospital, Rogers 72756	636-0200
IM	Donnell, Robert W	Post Office Box 737, Rogers 72757	636-2711
OBG	Elkins, James P	1116 Poplar Place, Rogers 72756	636-0300
FP	Floyd, Louis C.	Route 8, Box 100, Bentonville 72712	855-3711
FP	Garrett, David C., III	Post Office Box 737, Rogers 72757	636-2711
PD	Harmon, Harry M	1114 Poplar Place, Rogers 72756	636-9234
ORS	Henderson, Oscar L	101 North 37th, Rogers 72756	636-9607
FP	Hitt, Jerry L	Post Office Box 737, Rogers 72757	636-2711
OPH	Hof, C. William	Post Office Box 1357, Rogers 72757	636-7506
OPH	Hoffman, Carl E.	#1 Halsted Circle, #5, Rogers 72756	636-6020
FP	Holder, Robert E.	Post Office Box 669, Bentonville 72712	273-9056
AN	Horner, Glennon A	Post Office Box 1599, Rogers 72757	636-3840
FP	Howard, K. Lamar	Post Office Box 737, Rogers 72757	636-2711
GP	Howard, Willard H., Jr	Post Office Box 739, Bentonville 72712	273-5551
FP	Hull, Robert R.	1040 West Walnut, Rogers 72756	636-2711
FP	Huskins, John A	Post Office Box 737, Rogers 72757	636-2711
GS	Jennings, William E.	1040 West Walnut, Rogers 72756	636-2711
ORS	Kendrick, Carl M.	101 North 37th, Rogers 72756	636-9607
R	Knapp, James R.	Rogers Memorial Hospital, Rogers 72756	636-0200, Ext. 764
PD	Knight, Richard R	1114 Poplar Place, Rogers 72756	636-9234
FP	Martin, Albert E., Jr.	910 Northwest Seventh, Bentonville 72712	273-9400
FP	McCollum, Edward N.	Post Office Box 127, Decatur 72722	752-3233
GE	McKnight, William D	Post Office Box 1567, Rogers 72757	636-3627
IM	Miles, Richard W	Post Office Box 1000, Rogers 72757	636-6551
	Mizelle, Joseph W.	(Address unknown)	
FP	Mullins, Neil D.	Post Office Box 869, Bentonville 72712	273-9400
FP	Neaville, Gary A.	Post Office Box 737, Rogers 72757	636-2711
IM	Panettiere, Frank J	#6 Halsted Circle, Rogers 72756	636-5411

Type of Practice	Member's Name	Address	Telephone Number
GS	Pearson, Richard N	#6 Halsted Circle, Rogers 72756	636-5411
RD	Pickens, James L.	2212 West Walnut, Rogers 72756 (Res.)	636-2862
R	Platt, Michael R.	Post Office Box 797, Gravette 72736	787-5203
OTO	Reese, Michael C.	1110 West Elm, Rogers 72756	636-0110
RD	Robbins, Robert H.	Franklin, North Carolina	
FP	Rollow, John A	408 North Walton Boulevard, Bentonville 72712	273-2497
IM	Rolniak, Wallace A.	Post Office Box 1000, Rogers 72757	636-6551
GP	Ronald, Douglas C.	Route 8, Box 100, Bentonville 72712	855-3711
FP	Steadman, Hunter M.	Post Office Box 669, Bentonville 72712	273-9056
FP	Stone, W Tex	1219 West Walnut, Rogers 72756	636-6881
R	Swaim, Terry J	12th and Walnut, Rogers 72756	636-0200
IM	Swindell, William G	Post Office Box 1000, Rogers 72757	636-6551
U	Turley, Jan T	#2 Halsted Circle, Rogers 72756	636-9669
IM	Waldon, G Bruce	Post Office Box 1000, Rogers 72757	636-6551
GP	Warren, Grier D	Post Office Box 737, Rogers 72757	636-2711
FP	Weaver, Donald D	910 Northwest 7th, Bentonville 72712	273-9400
IM	Wright, Larry D	Post Office Box 1000, Rogers 72757	636-6551

BOONE COUNTY

GS	Bell, Thomas E.	Post Office Box 1116, Harrison 72602	741-6418
R	Bennett, Joe D.	Post Office Box 969, Harrison 72602	741-9667
OTO	Chambers, Carlton L.	Bower at Pine, Harrison 72601	741-7684
PD	Chambers, Sue R	Bower at Pine, Harrison 72601	741-7684
FP	Daniel, Charles D	Post Office Box E, Marshall 72650	448-3327
P	Earls, Jim H	Post Office Box 1912, Harrison 72602	NF
U	Ferguson, Noel F.	707 North Vine, Harrison 72601	741-9481
GP	Fowler, Ross E.	215 West Stephenson Avenue, Harrison 72601	741-8651
IM	Garland, William J., Jr.	Post Office Box 1077, Harrison 72602	741-3459
OPH	Geyler, Alice R	715 West Sherman, Harrison 72601	741-1910
GS	Gladden, Jean C	Post Office Box 1118, Harrison 72602	741-8275
GS	Hoberock, Thomas R	825 North Spring, Harrison 72601	741-7411
RD	Hudson, William A.	Hudsonakers, Jasper 72641 (Res.)	446-2948
#	Jackson, Ulys	Harrison	
GP	Kirby, Henry V.	825 North Spring, Harrison 72601	741-5022
IM	Klepper, Charles R.	707 North Vine, Harrison 72601	741-3592
FP	Langston, Robert H.	520 North Spring, Harrison 72601	741-8286
ORS	Ledbetter, Charles A.	224 West Erie, Harrison 72601	741-8289
OBG	Mahoney, Paul L., Jr	Post Office Box 1174, Harrison 72602	741-7334
FP	Maris, Mahlon O.	Post Office Box 1597, Harrison 72602	741-8247
FP	McCoy, Orville B	Post Office Box 578, Harrison 72602	741-3592
PTH	Peterson, Hubert C.	620 North Willow, Harrison 72601	741-6141
FP	Reese, Ronald R	Post Office Box 458, Harrison 72602	741-2299
R	Rozeboom, Victor A	Post Office Box 1134, Harrison 72602	741-1166
FP	Scroggins, Sam J	1002 North Spring, Harrison 72601	741-6373
OBG	Simpson, Thomas J	702 North Spring, Harrison 72601	741-2441
IM	Smith, H. Van	Post Office Box 1077, Harrison 72602	741-3459
ORS	Vowell, Don R	224 West Erie, Harrison 72601	741-8289
GS	Williams, Rhys A	Post Office Box 1118, Harrison 72602	741-8275
FP	Wilson, Joe B	520 North Spring, Harrison 72601	741-8286

BRADLEY COUNTY

GP	Chambers, F. David	219 East Central, Warren 71671	226-5873
FP	Marsh, James W	302 North Main, Warren 71671	226-2112
GP	Maxwell, Ralph M.	750 H. L. Ross Drive, Monticello 71655	367-6232
FP	Pennington, Kerry F	205 East Church, Warren 71671	226-5811
FP	Whaley, William C., Jr	205 East Church, Warren 71671	226-5811
FP	Wynne, George F.	113 West Cypress, Warren 71671	226-2844

CARROLL COUNTY

GS	Bubak, Paul J.	Post Office Box 422, Berryville 72616	423-6641
R	Diacon, W Lindley	Post Office Box 400, Rogers 72756	636-0012
FP	Etherington, Robert A.	41 Kingshighway, Eureka Springs 72632	253-9746
FP	Finfrock, William E.	41 Kingshighway, Eureka Springs 72632	253-9746
GS	Flake, William K	207 Carter, Berryville 72616	423-6661
PTH	Green, Jess D., Jr.	Post Office Box 288, Eureka Springs 72632	253-8070
	Rodriguez, Jose H	England Air Force Base	
FP	Stensby, Harold F.	207 Carter, Berryville 72616	423-6661
FP	Wallace, Oliver	Post Office Drawer AA, Green Forest 72638	438-5218
	Williams, Ralph E.	California	

CHICOT COUNTY

GP	Berry, Danny T	Post Office Box 788, Lake Village 71653	265-5343
GS	Burge, John P	Post Office Box 788, Lake Village 71653	265-5343
GP	Heder, Guy W.	Post Office Box 88, Portland 71663	737-2221
GP	Russell, John R.	Lake Village Clinic, Lake Village 71653	265-5343
IM	Sinlar, P	2420 North Highway 65, Eudora 71640	355-4496
GP	Smith, Major E.	Post Office Box 310, Dermott 71638	538-5717
GP	Talbot, Allen G	Post Office Box 788, Lake Village 71653	265-5343
GP	Thomas, H W	Post Office Box 250, Dermott 71638	538-5255
R	Tuangsithtanon, T.	Post Office Box 208, Lake Village 71653	265-5351, Ext. 278
GP	Tvedten, Tom	Post Office Box 512A, Lake Village 71653	265-3813
GP	Vichugsananon, Niponth	Post Office Box 385, Lake Village 71653	265-5374
GP	Weaver, William J.	Post Office Box O, Eudora 71640	355-4376
GP	Wilson, Thomas C.	Post Office Box J, Dermott 71638	538-5253

CLARK COUNTY

RD	Anderson, P. R.	Post Office Box 758, Arkadelphia 71923 (Res.)	246-4464
FP	Balay, John W	416 Main, Arkadelphia 71923	246-2431
GP	Blackmon, James T.	1008 Pine, Arkadelphia 71923	246-6734
RD	Clark, Charles G.	130 North 7th, Arkadelphia 71923	246-4051
IM	Dorman, Robert A	2850 Twin Rivers Drive, Arkadelphia 71923	246-6766
GP	Edmiston, Frank G.	18101 Fawn Tree Drive, Little Rock 72209	455-1315
RD	Kennedy, J W	106 Evonshire, Arkadelphia 71923 (Res.)	246-8105
P	Parsons, V Earl	117 North 11th, Arkadelphia 71923	246-8364
GP	Ritter, N R	3004 West Pine, Arkadelphia 71923	246-2471
GP	Taylor, George D.	137 North Sixth, Arkadelphia 71923	246-8022
RD	Toombs, Vernon L.	101 Charlotte, Gurdon 71743 (Res.)	353-2935
FP	Weber, Patrick L.	201 North 26th, Arkadelphia 71923	246-6722

CLEBURNE COUNTY

GP	Ashabranner, Wesley J.	Post Office Box 1111, Heber Springs 72543	362-2414
OPH	Baldridge, Max	Post Office Box 431, Heber Springs 72543	362-3479
RD	Barnett, James C.	1828 West Front, Heber Springs 72543 (Res.)	362-2786
GP	Barnett, Michael E.	4th and Spring Streets, Heber Springs 72543	362-3143

Type of Practice	Member's Name	Address	Telephone Number
OPH	Beasley, Harold	Post Office Box 272, Heber Springs 72543	362-3479
GS	Campos, Amador C.	821 West Main, Heber Springs 72543	362-7037
GP	Eans, Thomas L.	1709 West Main, Heber Springs 72543	362-8256
FP	Hinkle, Richard A.	Post Office Box 128, Quitman 72131	589-2600
FP	Oglesby, Nita B	421 South 7th, Heber Springs 72543	362-8205
GP	Poff, Joseph H.	Post Office Box 1111, Heber Springs 72543	362-2414
GP	Poff, Nathan L.	Post Office Box 1111, Heber Springs 72543	362-2414
RD	Scruggs, Joe B., Jr.	Route 2, Box 474, Heber Springs 72543 (Res.)	362-5798
IM	Sharp, Jack V	Post Office Box 70, Heber Springs 72543	362-3316
	COLUMBIA COUNTY		
FP	Alexander, John E.	707 North Washington, Magnolia 71753	234-2288
FP	Alexander, John E., Jr	707 North Washington, Magnolia 71753	234-2288
PD	Baldwin, Ronald L.	1411 North Jackson, Magnolia 71753	234-7912
IM	Farmer, John M.	104 East Columbia, Magnolia 71753	234-2230
FP	Griffin, Rodney L.	123 North Jackson, Magnolia 71753	234-3040
R	Hunter, Robert W., Jr	2602 Crestview, Magnolia 71753	235-3243
FP	Kelley, Charles W	1327 North Washington, Magnolia 71753	234-5544
GS	McMahen, H. Scott	Post Office Box 647, Magnolia 71753	234-3340
FP	Pullig, Thomas A.	805 North Jackson, Magnolia 71753	234-8570
FP	Roberts, Franklin D	110 West North, Magnolia 71753	234-8430
GP	Ruff, John L.	104 Hospital Road, Magnolia 71753	234-2144
GP	Strange, Vance M.	Post Office Box 67, Stamps 71860	533-2438
FP	Walker, Jack T.	123 North Jackson, Magnolia 71753	234-3040
FP	Weber, Charles H.	110 West North, Magnolia 71753	234-4411
	CONWAY COUNTY		
GP	Hickey, Thomas H.	Post Office Box 230, Morrilton 72110	354-4623
GP	Hyatt, Benjamin C.	Post Office Box 265, Perryville 72126	889-5141
FP	Kordek, Michael E.	Post Office Box 180, Perryville 72126	889-2383
GP	Lipsmeyer, Keith M	Post Office Box 677, Morrilton 72110	354-2456
RD	Owens, Gastor B	Route 3, Box 2, Morrilton 72110 (Res.)	354-2616
PTH	Rozzell, Allen R	601 South Moose, Morrilton 72110	354-1225
FP	Wells, Charles F.	601 South Moose, Morrilton 72110	354-2123
	CRAIGHEAD-POINSETT COUNTY		
D	Alston, Herman D	114 East Oak, Jonesboro 72401	932-4570
R	Aston, J. Kenneth	3024 Stadium Boulevard, Jonesboro 72401	972-7260
IM	Baldridge, John A.	505 East Matthews, Jonesboro 72401	932-1198
ORS	Ball, John F.	801-B Osler Drive, Jonesboro 72401	935-0519
GYN	Basinger, James W	Post Office Box 3075, Jonesboro 72402	972-5555
OBG	Berry, Donald M	Post Office Box 1478, Jonesboro 72403	935-3990
	Blair, Richard A.	(Address unknown)	
FP	Blanchard, S. Michael	410 East Jackson, Jonesboro 72401	933-0445
P	Blaylock, Jerry D.	901 South Church, Jonesboro 72401	935-0360
R	Bodeker, Larry J.	Post Office Box 1030, Jonesboro 72403	932-0639
U	Bogaev, Leonard R	Post Office Box 1513, Jonesboro 72403	932-2926
FP	Bradley, James F.	3100 Apache Drive, Jonesboro 72401	932-0002
R	Buckner, John H	Post Office Box 1030, Jonesboro 72403	972-4196
IM	Burns, Richard G	505 East Matthews, Jonesboro 72401	932-1198
IM	Clopton, Owen H., Jr.	505 East Matthews, Jonesboro 72401	932-1198
HEM	Cohen, Robert S	Post Office Box 865, Jonesboro 72403	932-7379
FP	Crawley, Michael E.	3100 Apache Drive, Jonesboro 72401	972-1720
ORS	Dickson, Glenn E.	505 East Matthews, Jonesboro 72401	932-1820
CD	Duplantis, Allen J., Jr.	303 East Matthews, Suite 100, Jonesboro 72401	935-6682
OTO	Eddington, William R	505 East Matthews, Jonesboro 72401	935-8132
GP	Faris, John C.	907 Union, Jonesboro 72401	935-8470
FP	Forestiere, A. J.	Post Office Box 106, Harrisburg 72432	578-5443
R	Garner, William L.	Post Office Box 1030, Jonesboro 72403	932-0639
OPH	George, F. Joseph	416 East Washington, Suite B, Jonesboro 72401	932-0485
FP	Golden, Stephen C.	403 East Matthews, Jonesboro 72401	935-5529
OTO	Gossett, Clarence E.	505 East Matthews, Jonesboro 72401	935-8132
IM	Gray, David P.	311 East Matthews, Jonesboro 72401	935-4150
R	Green, W. Robert	Post Office Box 1030, Jonesboro 72403	932-0526
IM	Guinn, Donald R.	505 East Matthews, Jonesboro 72401	932-1198
P	Guthrie, Alastair N	2701 South Caraway Road, Jonesboro 72401	932-0692
IM	Hall, Ray H., Jr	311 East Matthews, Jonesboro 72401	935-4150
RD	Harper, Thomas P.	108 Reeves, Monette 72447 (Res.)	486-5771
GE	Hightower, Michael D.	311 East Matthews, Jonesboro 72401	935-4150
CD	Hill, Roger D	311 East Matthews, Jonesboro 72401	935-4150
FP	Hogue, Ernest L.	920 Union, Jonesboro 72401	932-3022
	James, Frank M.	Fort Supply, Oklahoma	
PTH	Jennings, R. Duke	411 East Matthews, Jonesboro 72401	932-7430
AN	Johnson, Larry H.	806 South Church, Jonesboro 72401	932-4211
PD	Johnson, Roehl W	505 East Matthews, Jonesboro 72401	935-6012
	Jones, R. J.	San Francisco, California	
GE	Jordan, Harry J	311 East Matthews, Jonesboro 72401	935-4150
GS	Keisker, Henry W., Jr.	505 East Matthews, Jonesboro 72401	932-4581
PD	Kemp, Charles E.	505 East Matthews, Jonesboro 72401	935-6012
PTH	Kroe, Donald J.	411 East Matthews, Jonesboro 72401	932-7430
U	Lassonde, Robert G	416 East Washington, Suite C, Jonesboro 72401	932-8674
FP	Lawrence, R. O.	417 East Matthews, Jonesboro 72401	972-0550
RD	Ledbetter, Joseph W	626 West Washington, Jonesboro 72401 (Res.)	932-4197
OBG	Lunde, Stephen P	Post Office Box 1478, Jonesboro 72403	935-3990
FP	Lyons, Lewis C.	3100 Apache Drive, Suite A-3, Jonesboro 72401	935-9333
NEP	Mackey, Michael	311 East Matthews, Jonesboro 72401	935-4150
ORS	Mahon, Larry E.	910 South Main, Jonesboro 72401	935-9123
OPH	McKee, Bobby E.	505 East Matthews, Jonesboro 72401	935-6396
AN	Mitchell, George E.	806 South Church, Jonesboro 72401	932-4211
GP	Modelevsky, Aaron C.	Post Office Box 1427, Jonesboro 72403	932-0980
EM	Neff, Michael D	224 East Matthews, Jonesboro 72401	972-4288
RD	Peeler, Malcolm O.	2801 Greenbriar, Jonesboro 72401 (Res.)	935-5814
FP	Plunk, Hermie G	5005 East Nettleton, Jonesboro 72401	932-1181
FP	Poole, Grover D.	Post Office Box 10, Jonesboro 72403	932-2634
P	Price, Edwin F.	Post Office Box 5033, Jonesboro 72402	972-0290
PD	Rainwater, W. T.	505 East Matthews, Jonesboro 72401	935-6012
EM	Raney, Bascom P	1415 Metzler Lane, Jonesboro 72401 (Res.)	935-8184
OBG	Reid, E. Paul	3100 Apache Drive, Jonesboro 72401	972-6740
FP	Robbins, Robert A.	Post Office Box 8, Lake City 72437	237-4396
FP	Robinette, James M.	801 Osler Drive, Jonesboro 72401	932-2423
D	Rogers, James F.	406 East Washington, Jonesboro 72401	935-4755
CDS	Rubin, Harvey P.	303 East Matthews, Jonesboro 72401	972-6677
GS	Rusher, Albert H., Jr.	211 East Matthews, Jonesboro 72401	935-1242
CDS	Sanders, James W	826 South Main, Jonesboro 72401	932-4875
NS	Sapiro, Gary S	416 East Washington, Jonesboro 72401	972-8032
ORS	Schrantz, James L.	830 Cobb, Jonesboro 72401	972-8040

Type of Practice	Member's Name	Address	Telephone Number
U	Scriber, Ladd J.	Post Office Box 1513, Jonesboro 72403	932-2926
FP	Sears, Larry C	924 South Main, Jonesboro 72401	972-8181
FP	Sears, V Glenn	924 South Main, Jonesboro 72401	972-8181
RD	Shanlever, Rufus C.	1103 Wilkins, Jonesboro 72401 (Res)	932-2450
ORS	Shanlever, William T	906 South Main, Jonesboro 72401	972-1640
PD	Skaug, Warren A.	505 East Matthews, Jonesboro 72401	935-6012
GS	Smith, B Michael	826 South Main, Jonesboro 72401	932-4875
GP	Smith, Floyd A., Jr	415 West Main, Trumann 72472	483-6419
GP	Smith, Vestal B	Post Office Box 614, Marked Tree 72365	358-2811
AN	Sparks, E Barrett	806 South Church, Jonesboro 72401	932-4211
OBG	St Clair, John T., Jr	Post Office Box 1478, Jonesboro 72403	935-3990
OPH	Stainton, Joseph C.	416 East Washington, Suite B, Jonesboro 72401	932-0485
PTH	Stainton, Robert M., Jr.	411 East Matthews, Jonesboro 72401	932-7430
FP	Stallings, Joe H., Jr	417 East Matthews, Jonesboro 72401	972-0550
FP	Swingle, Charles G	Post Office Box 267, Marked Tree 72365	358-2036
FP	Taylor, G Wayne	211 East Matthews, Jonesboro 72401	972-1570
IM	Taylor, Robert D	311 East Matthews, Jonesboro 72401	935-4150
FP	Tedder, Michael E.	3100 Apache Drive, Jonesboro 72401	972-1810
FP	Thomas, J. Fred	514 Southwest Drive, Jonesboro 72401	935-8510
OPH	Utley, Phillip M.	920 South Main, Jonesboro 72401	932-8221
FP	Verser, Joe	Post Office Box 106, Harrisburg 72432	578-5443
PTH	Vollman, Don B., Jr	411 East Matthews, Jonesboro 72401	932-7430
OPH	Webb, James W	920 South Main, Jonesboro 72401	932-8221
U	Williams, E. Walden	Post Office Box 1513, Jonesboro 72403	932-2926
EM	Wilson, Francis M.	224 East Matthews, Jonesboro 72401	972-4288
PTH	Wilson, Joe T.	411 East Matthews, Jonesboro 72401	932-7430
RD	Winters, W Lee	(Address unknown)	
GP	Wisdom, G Durwood	Post Office Box 4098, Jonesboro 72402	932-8121
IM	Woodruff, Stephen O	311 East Matthews, Jonesboro 72401	935-4150
OTO	Young, William C , Jr	311 East Matthews, Jonesboro 72401	932-6799
	CRAWFORD COUNTY		
FP	Darden, Lester R	Post Office Box 1327, Van Buren 72956	474-2336
GP	Edds, Millard C.	1103 Chestnut, Van Buren 72956	474-2361
IM	Edwards, Henry N	Post Office Box 608, Van Buren 72956	474-5061
EM	Hefner, David P.	Crawford County Memorial Hospital, Van Buren 72956	474-3401
ORS	Raby, Paul L	2020 Chestnut, Van Buren 72956	474-5283
GP	Sasser, L. Gordon, III.	Post Office Box 438, Alma 72921	632-3855
RD	Shearer, F E	Post Office Box 458, Alma 72921 (Res)	632-3556
FP	Sills, David B.	Post Office Box 16, Mountainburg 72946	369-2091
GP	Travis, A Lawrence	Post Office Box 1327, Van Buren 72956	474-2336
	CRITTENDEN COUNTY		
PTH	Adler, Justin C., Jr	200 Tyler, West Memphis 72301	735-1500, Ext 193
GYN	Arnold, Sidney W	228 Tyler, Suite 303, West Memphis 72301	735-0836
GP	Deneke, Milton D	Post Office Box 687, West Memphis 72301	735-1170
OBG	Ferguson, T Murray	200 South Rhodes, West Memphis 72301	735-2150
OBG	Ford, Robert C., Jr.	200 South Rhodes, West Memphis 72301	735-2150
OBG	Gray, Thomas L	228 Tyler, Suite 204, West Memphis 72301	732-2531
FP	Hamilton, Ralph B.	300 South Rhodes, West Memphis 72301	735-1170
NEP	Hernandez, Jacinto	136 Block, Marion 72364	739-4458
AN	Herrington, C. G "Cap", Jr	Post Office Box 240896, Memphis, Tennessee 38124	901-685-6343
OTO	Hodges, John M	300 Tyler, West Memphis 72301	735-7603
GS	Huffstutter, Paul J.	308 South Rhodes, West Memphis 72301	735-3664
GS	Jay, Gilbert D., III	200 South Rhodes, West Memphis 72301	735-4612
OPH	Kennedy, Keith B	316 Tyler, West Memphis 72301	735-7680
GS	Lanford, H G	308 South Rhodes, West Memphis 72301	735-3664
ORS	L'Heureux, Guy J	228 Tyler, Suite 208, West Memphis 72301	732-3836
FP	Lubin, Milton	200 South Rhodes, West Memphis 72301	735-3919
ORS	Meredith, Samuel G , Jr.	228 Tyler, Suite 208, West Memphis 72301	732-3836
IM	Nadeau, Kenneth R.	228 Tyler, Suite 100, West Memphis 72301	735-1973
IM	Peeples, Chester W , Jr	228 Tyler, Suite 100, West Memphis 72301	735-1973
OTO	Pettit, Paul N , Jr.	228 Tyler, West Memphis 72301	735-7603
FP	Pierce, Trent P.	228 Tyler, Suite 200, West Memphis 72301	735-0833
GS	Schoettle, Glenn P	308 South Rhodes, West Memphis 72301	735-3664
FP	Shrader, Floyd R	1201 Missouri, West Memphis 72301	732-5555
GP	Smith, Bedford W	300 South Rhodes, West Memphis 72301	735-1170
IM	Taylor, C. Herbert, Jr	136 Block, Marion 72364	739-4458
R	Utley, L. Thomas	200 Tyler, West Memphis 72301	735-1500
IM	Webb, Dan W	228 Tyler, Suite 100, West Memphis 72301	735-1973
OBG	Westbrook, H Wade	228 Tyler, Suite 204, West Memphis 72301	732-2531
FP	Wright, William J.	210 Shoppingway, Suite A, West Memphis 72301	735-8751
	CROSS COUNTY		
FP	Beaton, Kenneth E.	Post Office Box 158, Wynne 72396	238-2321
FP	Bethell, Robert D	Post Office Box 158, Wynne 72396	238-2321
FP	Bui, Doan V	Post Office Box 725, Parkin 72373	755-5442
FP	Burks, Willard G	Post Office Box 158, Wynne 72396	238-2321
GP	Crain, Vance J	Post Office Box 158, Wynne 72396	238-2321
FP	Jacobs, James R	411 South Falls, Wynne 72396	238-3261
FP	Young, John H	411 South Falls, Wynne 72396	238-3261
	DALLAS COUNTY		
FP	Delamore, John H	Post Office Box 351, Fordyce 71742	352-7117
FP	Howard, Don G	110 North Clifton, Fordyce 71742	352-3151
FP	Nutt, Hugh A.	110 North Clifton, Fordyce 71742	352-5144
	DESHA COUNTY		
GS	Go, Kong Hua L	Post Office Box 97, Dumas 71639	382-5252
GP	Harris, Howard R	207 South Elm, Dumas 71639	382-4425
FP	Hoagland, Robert A.	145 West Waterman, Dumas 71639	382-4878
#	Moss, Swan B	McGehee	
FP	Prosser, Robert L., III	Post Office Box 707, McGehee 71654	222-6131
FP	Robinson, Guy U.	207 South Elm, Dumas 71639	382-4425
GP	Turney, Lonnie R.	101 South Third, McGehee 71654	222-4044
FP	Young, James E.	Post Office Box 707, McGehee 71654	222-6131
	DREW COUNTY		
FP	Binns, Van C.	203 East Trotter, Monticello 71655	367-3094
	Burns, Robert E.	Monroe, Louisiana	
GP	Busby, A K.	733 Roberts Drive, Monticello 71655	367-3246
FP	David, Andrew E.	750 H L. Ross Drive, Monticello 71655	367-6231
GP	Llana, Angelo T	433 South Main, Monticello 71655	367-5955
RD	Price, Johnnie P	232 South Main, Monticello 71655 (Res.)	367-5100
FP	Wallick, Paul A.	906 Roberts Drive, Monticello 71655	367-6867
FP	Wilson, Harold F.	906 Roberts Drive, Monticello 71655	367-6867

Type of Practice	Member's Name	Address	Telephone Number
		FAULKNER COUNTY	
RD	Archer, Charles A., Jr.	411 Western, Conway 72032 (Res.)	329-3412
FP	Banister, Bob G	923 Parkway, Conway 72032	329-3824
AN	Beasley, Margaret D	Post Office Box 404, Conway 72032	329-8742
FP	Beasley, Thomas O	Post Office Box 1386, Conway 72032	329-2946
ADM	Benafield, Robert B	Post Office Box 2181, Little Rock 72203	378-2356
GP	Daniel, Sam V	574 Locust, Conway 72032	329-6111
FP	Dobbs, John C	#1 Medical Lane, Conway 72032	329-2948
IM	Furlow, William C.	Post Office Box 1367, Conway 72032	327-1325
R	Garrison, James S	Conway Memorial Hospital, Conway 72032	329-3831
FP	Gordy, L. Fred, Jr	552 Locust, Conway 72032	329-6881
OPH	Hendrickson, Richard O	939 Locust, Conway 72032	329-1151
OPH	Magie, Jimmie J	1504 Caldwell, Conway 72032	327-4444
OBG	McChristian, Paul L	2519 College Avenue, Conway 72032	327-6547
FP	Ross, Rex W	#1 Medical Lane, Conway 72032	329-2948
FP	Smith, John D	923 Parkway, Conway 72032	329-3824
GP	Smith, Lander A.	923 Parkway, Conway 72032	329-3824
FP	White, Tommie G	Post Office Box 1386, Conway 72032	329-2946
		FRANKLIN COUNTY	
FP	Calaway, Robert L.	Post Office Box C, Mulberry 72947	997-1484
FP	Gibbons, David L.	Post Office Box 136, Ozark 72949	667-4165
IM	Jefferson, Christina M	Post Office Box 1057, Ozark 72949	667-4021
PD	Jefferson, Thomas C.	Post Office Box 1057, Ozark 72949	667-4021
ADM	Long, C. C	Post Office Box 1208, Fort Smith 72902	782-8218
GS	Smith, John C.	Post Office Box 1057, Ozark 72949	667-4021
IM	Sullivan, Christopher J	Post Office Box 1057, Ozark 72949	667-4021
		GARLAND COUNTY	
RD	Adams, Frank M	26 Circle Drive, Hot Springs 71901 (Res.)	623-9676
U	Aspell, Robert W	200 Whittington, Suite 106, Hot Springs 71901	321-9013
RD	Atkinson, Robert H	1305 Richard, Hot Springs 71913 (Res.)	624-5676
IM	Bodemann, Michael C	615 West Grand, Suite 5, Hot Springs 71901	623-2781
IM	Bodemann, Stephen L.	615 West Grand, Hot Springs 71901	623-2781
RD	Bohnen, Loren O	806 Ramble, Hot Springs 71901 (Res.)	624-2208
IM	Bond, John B., Jr	505 West Grand, Suite 302, Hot Springs 71901	624-5697
OTO	Borg, Robert V	100 Ridgeway, Suite 2, Hot Springs 71901	624-5422
OPH	Bracken, Ronald J	505 West Grand, Suite 201, Hot Springs 71901	624-4478
OPH	Braley, Richard E.	615 West Grand, Suite 7, Hot Springs 71901	624-1196
GS	Brunner, John H	101 Whittington, Hot Springs 71901	321-2229
EM	Bumpas, Timothy F	Ouachita Memorial Hospital, Hot Springs 71901	624-5702
RD	Burton, Frank M.	106 Trivista Right, Hot Springs 71901 (Res.)	623-8323
U	Burton, James F	101 Whittington, Hot Springs 71901	321-2229
GS	Campbell, James W	236 Central, Suite 1400, Hot Springs 71901	624-5700
D	Cates, Jack A	100 Ridgeway Place, Suite 5, Hot Springs 71901	624-3376
GS	Chamberlain, Joe W	330 Sixth, Hot Springs 71913	623-4477
#	Chamberlain, Warren W	Hot Springs	
RHU	Clardy, Edgar K.	Post Office Box 850, Hot Springs 71902	623-9684
FP	Clark, Robert B.	328 Ouapaw, Hot Springs 71901	321-9292
R	Cupp, Cecil W., III	911 West Grand, Hot Springs 71913	623-6693
RD	Daniel, Richard L	125 Carl Drive, #58, Hot Springs 71913 (Res.)	623-9753
AN	Davis, Sheryl L.	300 St. Louis Place, Hot Springs 71913	623-9216
IM	Dembinski, T. Henry	804½ Central, Hot Springs 71901	623-9781
RD	Dodson, John W., Jr	37 Circle Drive, Hot Springs 71901 (Res.)	623-1025
GE	Dunn, Richard W	133 Arbor, Suite B, Hot Springs 71901	623-4898
RD	Edwards, Gwilym A	1 Magda Lane, Hot Springs Village 71909 (Res.)	922-0552
GS	Eisele, W. Martin	101 Whittington, Hot Springs 71901	321-2229
OBG	Finan, E. Michael	225 Linden, Suite 2, Hot Springs 71901	623-6455
R	Fore, Robert W	911 West Grand, Hot Springs 71913	623-6693
GP	Fotioo, George J	505 Central Towers Building, Hot Springs 71901	623-5121
GS	French, James H	101 Whittington, Hot Springs 71901	321-2229
GP	Gardial, J. Richard	125 Greenwood, Hot Springs 71901	623-3373
FP	Gardner, James L.	125 Greenwood, Hot Springs 71901	623-0904
RD	Garner, Onyx P.	(Address unknown)	
FP	Graham, Richard F.	505 West Grand, Suite 301, Hot Springs 71901	623-4391
OTO	Griffin, James E.	100 Ridgeway, Suite 2, Hot Springs 71901	624-5422
OBG	Haggard, John L	101 Whittington, Hot Springs 71901	321-2229
OTO	Harper, Edwin L.	100 Ridgeway, Suite 2, Hot Springs 71901	624-5422
FP	Hechanova, D. M., Jr	1315 Central, Hot Springs 71901	624-5206
CD	Heinemann, Fred M.	ABT Towers, #504, Hot Springs 71901	624-6641
GS	Hill, Robert L.	905 West Grand, Hot Springs 71913	623-9581
FP	Hollis, Thomas H.	125 Greenwood, Hot Springs 71901	623-3373
GS	Howe, H. Joe	101 Whittington, Hot Springs 71901	321-2229
AN	Humphreys, Robert P	229 Hazel, Hot Springs 71901	623-7601
D	Irwin, William G	Post Office Box 2588, Hot Springs 71913	321-9455
P	Jackson, George W	901 West Grand, Hot Springs 71913	623-3502
GYN	Jackson, Haynes G	Post Office Box 880, Hot Springs 71902	623-6628
OBG	Jackson, Haynes G., Jr	Post Office Box 880, Hot Springs 71902	623-6628
CD	Jayaraman, K. K.	2513 Malvern, Hot Springs 71901	321-2513
PTH	Jayaraman, Vilasini D	415 Bellaire, Hot Springs 71901 (Res.)	624-4011
PUD	Jayasundera, Naomal S.	225 Linden, Suite 3, Hot Springs 71901	623-7163
PD	Johnson, Paulette S.	310 Klein Shore, B-18, Hot Springs 71913 (Res.)	767-9332
OPH	Johnston, Gaither C.	99 Little Pine, Hot Springs 71901	624-7106
GP	Jumper, Mark W.	105 Reserve, Hot Springs 71901	624-4411
GS	Kaler, Ron A.	905 West Grand, Hot Springs 71913	623-9581
GP	Keadle, William R	Post Office Box P, Glenwood 71943	356-3155
OBG	Kimberlin, G. Dan	101 Whittington, Hot Springs 71901	321-2229
ORS	Kincheloe, A. Dale	133 Arbor, Suite A, Hot Springs 71901	321-2663
RD	King, Leeman H.	610 Ramble, Hot Springs 71901 (Res.)	623-8185
ORS	Kleinhenz, Robert W	133 Arbor, Hot Springs 71901	321-2663
AN	Klugh, Walter G., Jr	300 St. Louis Place, Suite 306, Hot Springs 71913	623-9216
FP	Koehn, Martin A	328 Ouapaw, Hot Springs 71901	321-9292
P	Lane, Charles S., III	225 Linden, Suite 4, Hot Springs 71901	624-4490
IM	Lang, Patricia A.	8 Cordoba Center, Hot Springs Village 71909	922-0575
PTH	Lee, William R	Post Office Box 1460, Hot Springs 71902	623-2518
P	Lewis, Robert L.	Post Office Box 850, Hot Springs 71902	624-2354
GP	Lovell, Clawrence R.	414 Albert Pike, Hot Springs 71913	624-1211
PM	Madsen, Henrik, II	311 Whittington, Hot Springs 71901	624-5940
GS	Mahone, J. Kelly	905 West Grand, Hot Springs 71913	623-9581
IM	Maruthur, Gopakumar	133 Arbor, Suite C, Hot Springs 71901	623-1545
IM	Mashburn, William R.	99 Little Pine, Hot Springs 71901	623-4453
ORS	McConkie, Stuart B	200 Whittington, Suite 111, Hot Springs 71901	623-5300
GYN	McCrary, Robert F.	211 Hobson, Hot Springs 71913	321-2217
NEP	McCrary, Robert F., Jr.	236 Central, Suite 606, Hot Springs 71901	321-9803
PD	McFarland, Louis R.,	211 Hobson, Hot Springs 71913	321-1314
GP	McMahan, James C	306 Albert Pike, Hot Springs 71913	624-2111

Type of Practice	Member's Name	Address	Telephone Number
GS	Meek, Gary N	905 West Grand, Hot Springs 71913	623-9581
GP	Morrison, David R.	Reynolds Metals Company, Box 128, Malvern 72104	844-4331
R	Munos, Louis R.	911 West Grand, Hot Springs 71913	623-6693
PD	Newton, Doane M.	236 Woodbine, Hot Springs 71901	321-2546
CD	Pai, B V.	236 Central, Suite 403, Hot Springs 71901	623-7510
OBG	Pappas, Deno P	101 Whittington, Hot Springs 71901	321-2229
GP	Parkerson, Cecil W	1421 Central, Hot Springs 71901	624-3341
RD	Peeples, Raymond E.	Route 19, Box 254, Hot Springs 71913 (Res.)	262-3346
PTH	Pemmaraju, Seshagirirao	Post Office Box 1460, Hot Springs 71901	623-2518
#	Power, Allyn R	Hot Springs	
OBG	Rainwater, W Sloan	101 Whittington, Hot Springs 71901	321-2229
PD	Robert, Jon M.	236 Woodbine, Hot Springs 71901	321-2546
RHU	Robertson, Fred T.	Post Office Box 850, Hot Springs 71902	624-1281
PM	Rosenzweig, Joseph L.	Post Office Box 1358, Hot Springs 71902	624-4411
RD	Sanders, Hallman E.	220 Bafanridge, Hot Springs 71901 (Res.)	624-2869
GP	Seifert, Kenneth A	Post Office Box 8440, Hot Springs Village 71909	984-6166
EM	Shelby, Eugene M	100 Whittington, Hot Springs 71901	624-5451
GER	Shriner, Walter	Post Office Box 8440, Hot Springs Village 71909	984-6166
FP	Simpson, John B.	328 Ouapaw, Hot Springs 71901	321-9292
ORS	Smith, Bruce L., Jr	133 Arbor, Hot Springs 71901	321-2663
R	Smith, Phillip L.	911 West Grand, Hot Springs 71913	623-6693
R	Springer, Melvin R., Jr	911 West Grand, Hot Springs 71913	623-6693
R	Springer, William Y.	911 West Grand, Hot Springs 71913	623-6693
FP	Stecker, Elton H	1315 Central, Hot Springs 71901	624-5206
FP	Stecker, Rheeta M.	1315 Central, Hot Springs 71901	624-5206
D	Stough, D B., III	99 Little Pine, Hot Springs 71901	624-0673
OPH	Thomas, W Al	Post Office Drawer D, Hot Springs 71902	624-1204
OBG	Thompson, Thomas P., Jr	101 Whittington, Hot Springs 71901	321-2229
PD	Trieschmann, John W	Post Office Box 2458, Hot Springs 71913	321-2546
N	Tucker, R. Paul	100 Ridgeway, Suite 1, Hot Springs 71901	623-7762
RD	Wade, H King, Jr.	118 Trivista Right, Hot Springs 71901 (Res.)	623-9426
OPH	Wallace, Thomas R.	126 Hawthorne, Hot Springs 71901	624-0609
P	Watermann, Eugene	100 Ridgeway, Suite 1, Hot Springs 71901	623-6179
GP	Wilson, William C.	101 Doris Lane, Hot Springs 71913	623-1151
U	Woodward, Philip A	903 West Grand, Hot Springs 71913	623-8110

GRANT COUNTY

GP	Irvin, Jack M.	205 West High, Sheridan 72150	942-3171
FP	Paulk, Clyde D	Post Office Box 307, Sheridan 72150	942-5155

GREENE-CLAY COUNTY

R	Baker, A. J.	Post Office Box 339, Paragould 72450	236-3486
FP	Baker, Clark M	115 West Court, Paragould 72450	236-6356
PTH	Boggs, Dwight F.	#1 Medical Drive, Paragould 72450	239-7131
FP	Bonner, J. Darrell	1015 West Kingshighway, Paragould 72450	239-4076
FP	Cagle, Roger E.	#1 Medical Drive, Paragould 72450	239-8504
GP	Collier, George H.	#5 Market Place, Paragould 72450	236-6911
FP	Collier, Jon D.	#5 Market Place, Paragould 72450	236-6911
GP	Crow, Asa A.	#1 Medical Drive, Paragould 72450	239-8504
FP	Duckworth, Hillard R.	Post Office Box 303, Piggott 72454	598-2236
GP	Futrell, J. B	414 West 2nd, Rector 72461	595-3332
OPH	Hardcastle, R Lowell	#1 Medical Drive, Paragould 72450	236-6948
RD	Harper, Bland R.	Post Office Box C, Monette 72447 (Res.)	486-5719
ORS	Hazzard, Marion P	#1 Medical Drive, Paragould 72450	236-6996
FP	Hobby, George A	#1 Medical Drive, Paragould 72450	239-8579
U	Jones, Bryant W	#1 Medical Drive, Paragould 72450	239-2585
FP	Kemp, Clarence L.	#1 Medical Drive, Paragould 72450	239-8504
GS	Lawson, J Larry	#1 Medical Drive, Paragould 72450	239-5916
AN	Martin, Richard O.	Post Office Box 339, Paragould 72450	239-7194
RD	McKelvey, Earle D.	319 Grandview, Clarksville 72830 (Res.)	754-2382
GP	Mitchell, Bennie E.	901 West Kingshighway, Paragould 72450	239-8576
FP	Muse, Jerry L.	Post Office Box 303, Piggott 72454	598-2237
GP	Page, Billie C.	#1 Medical Drive, Paragould 72450	236-2364
R	Purcell, Donald I.	Post Office Box 339, Paragould 72450	239-8431
PTH	Richmond, Jack G	Post Office Box 339, Paragould 72450	236-7733
PD	Romano-Sembrano, Elnora P.	Post Office Box 87, Corning 72422	857-6971
GS	Sellars, John R.	#1 Medical Drive, Paragould 72450	239-5926
FP	Sembrano, Romeo Y.	Post Office Box 87, Corning 72422	857-6971
FP	Shedd, Leonus L.	1015 West Kingshighway, Paragould 72450	239-4076
IM	Sheridan, James G	425 West Jackson, Piggott 72454	598-2237
GP	Shotts, C. Mack, Jr	#1 Medical Drive, Paragould 72450	239-8505
PD	Shotts, Vern Ann	1015 West Kingshighway, Paragould 72450	239-4076
FP	Watson, Samuel D.	901 West Kingshighway, Paragould 72450	236-8591
IM	White, Robert B.	#1 Medical Drive, Paragould 72450	239-9549
FP	Williams, Dwight M.	#1 Medical Drive, Paragould 72450	236-6956
FP	Williams, Jacob M.	1015 West Kingshighway, Paragould 72450	239-4076

HEMPSTEAD COUNTY

FP	Branch, James W., Sr	420 South Main, Hope 71801	777-4636
PTH	Dodd, N Leland	Post Office Box 1118, Hope 71801	777-9324
GP	Goins, Dale E.	Post Office Box 550, Hope 71801	777-2131
IM	Harden, Charles M., Jr.	Post Office Box 308, Hope 71801	777-3810
GP	Harris, Lowell O.	Post Office Box 550, Hope 71801	777-2131
FP	Holt, Forney G	300 East 6th, Texarkana 75502	774-3211, Ext. 222
GS	Martindale, James G	Post Office Box 861, Hope 71801	777-3464
GP	McKenzie, Jim	Post Office Box 687, Hope 71801	777-2321
R	Stevens, David G	Route 4, Box 329-S, Hope 71801 (Res.)	777-9777
FP	Warmack, Asa M.	Post Office Box 687, Hope 71801	777-2321
FP	Wright, George H	405 West 16th, Hope 71801	777-6722

HOT SPRING COUNTY

IM	Bollen, A. Ray	1002 Schneider Drive, Malvern 72104	337-0389
GP	Brashears, Larry B	1234 South Main, Malvern 72104	332-5245
IM	Burton, Bruce K.	2223 Grant, Malvern 72104	337-9031
FP	Clark, Curtis B.	294 Summar, Jackson, Tennessee 38301	901-423-1932
FP	Cobb, Russell W	1420 Potts, Malvern 72104	332-3112
AN	Ellis, C. Randolph	1004 South Main, Malvern 72104	332-6941
FP	Justus, Michael G.	1002 Schneider Drive, Suite 104, Malvern 72104	337-9066
GP	Kersh, N. B	1518 McBee, Malvern 72104	337-7533
GS	Murphy, Kenneth	1002 Schneider Drive, Suite 102, Malvern 72104	337-4935
FP	Peters, C F.	1420 Potts, Malvern 72104	332-2521
GP	Vaughan, John A.	1002 Schneider Drive, Malvern 72104	332-2371
FP	White, Bruce A.	1002 Schneider Drive, Suite 104, Malvern 72104	337-9066
FP	White, Robert H.	1004 Dyer, Malvern 72104	332-3664

Type of Practice	Member's Name	Address	Telephone Number
	HOWARD-PIKE COUNTY		
FP	Buckley, Douglas A.	Post Office Box 834, Nashville 71852	845-4622
GP	Chambers, William H.	Post Office Box 1750, Nashville 71852	845-4041
GP	Gullett, A. Dale	Post Office Box 98, Dierks 71833	286-3154
GS	Hearnsberger, John E.	Post Office Box 508, Nashville 71852	845-1761
FP	Humphreys, T. J., Jr.	Post Office Box 575, Nashville 71852	845-2922
GP	Jones, William J	Post Office Box 49, Glenwood 71943	356-3921
FP	King, Joe D	Post Office Box 549, Nashville 71852	845-1933
FP	Peebles, Samuel W	120 West Sypert, Nashville 71852	845-4676
R	Pye, Ted H.	1206 North 14th, Nashville 71852 (Res.)	845-5341
GP	Turbeville, James O	1124 North Washington, Murfreesboro 71958	285-2182
GP	Ward, Hiram T.	Post Office Box 319, Murfreesboro 71958	285-2491
FP	White, Phillip L.	Post Office Box 538, Murfreesboro 71958	285-3118
GP	Wilmoth, Marion H.	Post Office Box 804, Nashville 71852	845-4780
	INDEPENDENCE COUNTY		
ORS	Allen, J. David	501 Virginia Drive, Batesville 72501	793-2371
FP	Baker, John R.	Post Office Box 2001, Batesville 72503	793-5356
CD	Baxley, Paul J	Post Office Box 56131, Little Rock 72215	224-3905
FP	Beck, Carl T.	Post Office Drawer J, Mountain View 72560	269-3834
R	Bess, Lloyd G	1490 Byers, Batesville 72501	793-2207
U	Day, Charles H.	Post Office Box 2116, Batesville 72503	698-1808
P	Goodin, William H, Jr.	407 Virginia Drive, Batesville 72501	793-4831
PTH	Hill, John M., Jr.	Post Office Box 2113, Batesville 72503	793-5251
OBG	Jones, Edward J.	409 Virginia Drive, Batesville 72501	793-4300
OPH	Jones, Edward T	180 North 5th, Batesville 72501	793-5257
IM	Kauffman, P. David	501 Virginia Drive, Batesville 72501	793-8374
GS	Ketz, Wesley J	Post Office Box 2695, Batesville 72503	793-2321
GS	Lambert, John S.	501 Virginia Drive, Batesville 72501	698-1846
ORS	Luter, Dennis W.	501 Virginia Drive, Batesville 72501	793-2371
FP	Lytle, Jim E.	Post Office Box 2116, Batesville 72501	793-6663
R	McClain, Charles M , Jr.	1490 Byers, Batesville 72501	793-2207
GP	Moody, Lackey G.	Post Office Box 2335, Batesville 72503	793-5862
GP	Raney, W Troy	Post Office Box 83, Cave City 72521	283-5762
FP	Scott, John G.	Post Office Box 2116, Batesville 72503	793-1126
GP	Slaughter, Bob L.	Post Office Box 2416, Batesville 72503	793-2540
FP	Smith, Bob G.	Post Office Box 2116, Batesville 72503	793-9352
GS	Stalker, James M	Post Office Box 2575, Batesville 72503	793-5205
GS	Strickland, Nathan E.	501 Virginia Drive, Suite A, Batesville 72501	698-1846
GP	Taylor, Chaney W.	Post Office Box 2116, Batesville 72503	793-5251
RD	Taylor, Charles A.	Route 7, Box 649A, Batesville 72501 (Res.)	793-2836
GP	Tucker, Charles L.	Post Office Box 38, Ash Flat 72513	994-7301
AN	Turner, Samuel R.	920 15th Street, Batesville 72501	793-1133
	JACKSON COUNTY		
IM	Ashley, John D	2000 McLain, Newport 72112	523-6721
EM	Austin, Lester K., Jr.	Newport Hospital, Newport 72112	523-6721
GS	Carney, J W.	Post Office Box 699, Newport 72112	523-3489
R	Chauhan, Mufiz A.	Post Office Box 605, Newport 72112	523-6591
IM	Dudley, Guilford M., III	2000 McLain, Newport 72112	523-5272
U	Foote, John W	2000 McLain, Newport 72112	523-5838
GS	Frankum, Jerry M., Jr	Post Office Box 606, Newport 72112	523-5879
GP	Green, Roger L.	Post Office Box 159, Newport 72112	523-9852
RD	Harris, M. Haymond	501 Walnut, Newport 72112 (Res.)	523-5168
OBG	Hergenroeder, Paul J.	Post Office Box 39, Newport 72112	523-6728
OBG	Jackson, Jabez F., Jr.	Post Office, Box A, Newport 72112	523-3289
RD	Jackson, Jabez F.	304 Ash, Newport 72112 (Res)	523-8314
FP	Junkin, A Bruce	Post Office Box 69, Newport 72112	523-3666
ORS	Lopez, Ramon E.	1902 McLain, Newport 72112	523-2942
GS	Poon, Hon K	Post Office Box 206, Newport 72112	523-6796
FP	Reynolds, Roland C.	2000 McLain, Suite FG, Newport 72112	523-5660
OPH	Stanfield, Wayne	Post Office Box 129, Newport 72112	523-3321
RD	Williams, Thomas E.	12 Park Place, Newport 72112 (Res)	523-6121
R	Young, Jack S., III	Post Office Box 67, Newport 72112	523-8115
	JEFFERSON COUNTY		
FP	Alexander, Lester T	Post Office 1226, Pine Bluff 71613	534-4352
RD	Anderson, Charles W	1411 Olive, Pine Bluff 71601 (Res.)	535-1661
FP	Armstrong, Simmie, Jr	1716 Doctors Drive, Pine Bluff 71603	535-6461
AN	Atkinson, Evangelina C.	1402 West 42nd, Pine Bluff 71603	535-5522
FP	Atnip, Gwyn	1111 West 15th, Pine Bluff 71603	535-3551
FP	Bell, Carl H., Jr.	1602 West 42nd, Pine Bluff 71603	535-4850
ORS	Blackwell, Banks	Post Office Box 1406, Pine Bluff 71613	534-3122
	Bonner, Steven P.	Mooresville, North Carolina	
OBG	Bracy, Calvin M.	1301 West 43rd, Pine Bluff 71603	536-7550
U	Brooks, R. Teryl, Jr.	1801 West 40th, Suite 1-B, Pine Bluff 71603	536-7758
#	Bryant, R. Frank	Pine Bluff	
OTO	Buckley, J Wayne	Post Office Box 1550, Pine Bluff 71613	535-5719
P	Burford, Thomas G	4313 West Markham, Little Rock 72201	664-4500
PD	Burke, Bryan L., Jr.	1420 West 43rd, Pine Bluff 71603	534-6210
GE	Butler, Robert C.	1801 West 40th, Suite 5-A, Pine Bluff 71603	536-7660
PUD	Campbell, James C., Jr.	1604 West 42nd, Pine Bluff 71603	536-8507
AN	Carlisle, David L.	1402 West 42nd, Pine Bluff 71603	535-5522
P	Carlton, Irvin L.	Post Office Box 1019, Pine Bluff 71613	534-1834
FP	Cheek, Ben H	Post Office Box 1285, Pine Bluff 71613	541-7189
PTH	Clark, James F., Jr.	1515 West 42nd, Pine Bluff 71603	541-7528
FP	Coker, L. Randle	Post Office Box 276, Star City 71667	628-4292
IM	Crenshaw, John	4201 Mulberry, Pine Bluff 71603	535-2200
D	Davis, Charles M.	1416 West 43rd, Pine Bluff 71603	535-7477
IM	Dedman, John D	4201 Mulberry, Pine Bluff 71603	535-2200
CD	Deneke, William A.	1612 West 42nd, Pine Bluff 71603	536-3015
OBG	Devi, Talluri S	1801 West 40th, Suite 4-E, Pine Bluff 71603	536-0974
GS	Dickins, Robert D., Sr.	1003 Cherry, Pine Bluff 71601	534-8141
R	Fendley, Claude E.	Post Office Box 7863, Pine Bluff 71611	534-8651
GP	Flowers, Martha A.	119 East 4th, Pine Bluff 71601	534-5523
GS	Forestiere, Lee A.	1801 West 40th, Suite 4-D, Pine Bluff 71603	534-4188
N	Frigon, Jacquelyn S.	1726 Doctors Drive, Pine Bluff 71603	535-4800
R	Fuller, C. James	Post Office Box 7863, Pine Bluff 71611	534-8651
IM	Gaston, Robert S	11 Southern Pines, Pine Bluff 71603 (Res.)	535-6059
RD	Glasscock, Robert E.	3218 Elm, Pine Bluff 71603 (Res.)	535-6438
PD	Green, Horace L.	1420 West 43rd, Pine Bluff 71603	534-6210
IM	Green, Linda Haynie	1600 West 42nd, Pine Bluff 71603	534-6570
ORS	Gullett, Robert R., Jr.	1801 West 40th, Suite 5-B, Pine Bluff 71603	536-7579
R	Hardin, J. David	Post Office Box 7863, Pine Bluff 71611	534-8651
IM	Harper, William F.	1801 West 40th, Suite 1-A, Pine Bluff 71603	536-9230

Type of Practice	Member's Name	Address	Telephone Number
PD	Hart, J. Clyde, Jr	1420 West 43rd, Pine Bluff 71603	534-6210
R	Hegwood, Henri M	Post Office Box 7863, Pine Bluff 71611	534-8651
EM	Henderson, Francis M	209 North Blake, Pine Bluff 71601	536-6600
IM	Hoover, Sherman H	1708 West 42nd, Pine Bluff 71603	536-7300
OPH	Hughes, L. Milton	1414 West 43rd, Pine Bluff 71603	536-7738
FP	Hussain, Shafqat	1801 West 40th, Suite 4-B, Pine Bluff 71603	535-4640
RD	Hutchison, E. L.	Route 2, Box 375, Heber Springs 72543 (Res.)	362-5165
OBG	Hyman, Carl E.	121 East 4th, Pine Bluff 71601	534-3365
N	Ingram, Thomas E.	1726 Doctors Drive, Pine Bluff 71603	535-4803
GS	Irwin, R. A.	1220 West 42nd, Pine Bluff 71603	535-2100
U	Jacks, David C.	4303 Mulberry, Suite A, Pine Bluff 71603	535-4221
P	James, William J.	Post Office Box 1019, Pine Bluff 71613	534-1834
CD	Jenkins, Bobby J.	1612 West 42nd, Pine Bluff 71603	536-3015
AN	Jenkins, M. E.	1402 West 42nd, Pine Bluff 71603	535-5522
GS	Johnson, Horace	2526-B East Harding, Pine Bluff 71601	534-3910
R	Joseph, Aubrey S.	Post Office Box 7863, Pine Bluff 71611	534-8651
FP	Justiss, Richard D.	1222 West 42nd, Pine Bluff 71603	535-1819
OBG	Kalpa, Siva P.	1801 West 40th, Suite 7A, Pine Bluff 71603	535-1025
AN	Khan, M. A.	1402 West 42nd, Pine Bluff 71603	535-5522
OPH	King, Yum Y.	4800 South Hazel, Pine Bluff 71603	536-1897
OTO	Langston, Lloyd G.	Post Office Box 1550, Pine Bluff 71613	535-5719
GS	Ligon, Ralph E.	1801 West 40th, Pine Bluff 71603	534-4188
FP	Lindsey, James A.	1222 West 42nd, Pine Bluff 71603	535-1819
ORS	Lipscomb, Larry G.	1801 West 40th, Suite 5-B, Pine Bluff 71603	536-7579
D	Lum, Don	4301 Mulberry, Suite B, Pine Bluff 71603	541-0400
GS	Mabry, Charles D.	1801 West 40th, Suite 7-B, Pine Bluff 71603	535-8280
FP	Maynard, Ross E.	303 National Building, Pine Bluff 71601	534-5732
R	McDonald, Robert L.	Post Office Box 7863, Pine Bluff 71611	534-8651
OPH	McFarland, Mike S.	1801 West 40th, Suite 5-C, Pine Bluff 71603	536-4100
NEP	Mehta, Shyam P.	4400 Mulberry, Pine Bluff 71603	536-6105
GS	Meredith, William R.	1704 West 42nd, Pine Bluff 71603	535-8727
ADM	Miller, Donald L.	1515 West 42nd, Pine Bluff 71603	541-7611
R	Milligan, Monte C.	Route 1, Box 640, Pine Bluff 71603	352-3442
RD	Monroe, Sanford C.	1600 West 35th, Pine Bluff 71603 (Res.)	534-1130
RD	Morris, Harold J.	#12 Lakewood Lane, Pine Bluff 71603 (Res.)	534-8354
OPH	Nixon, William R.	709 West 6th, Pine Bluff 71601	534-2624
IM	Nuckolls, J. William	1801 West 40th, Suite 1-C, Pine Bluff 71603	541-0222
CD	Pearce, Malcolm B.	1612 West 42nd, Pine Bluff 71603	536-3015
FP	Perry, V. Bryan	1722 West 42nd, Pine Bluff 71603	535-4141
GYN	Pierce, J. R., Jr.	1702 West 42nd, Pine Bluff 71603	535-3443
OBG	Pierce, Ruston Y.	1702 West 42nd, Pine Bluff 71603	535-3443
FP	Raney, Oliver C.	1720 West 42nd, Pine Bluff 71603	534-5861
ORS	Reed, E. Frank	916 Cherry, Pine Bluff 71601	535-0121
HEM	Reid, Ishmael S.	817 Cherry, Pine Bluff 71601	535-1880
PD	Reid, Lloyene B.	1420 West 43rd, Pine Bluff 71603	534-6210
GS	Rittelmeyer, Clarence M.	1704 West 42nd, Pine Bluff 71603	535-8727
OBG	Roaf, Sterling A.	1310 Linden, Pine Bluff 71603	536-4602
GS	Roberson, George V., Jr.	1801 West 40th, Suite 7-B, Pine Bluff 71603	535-2716
GP	Robinette, Joseph S.	1718 Doctors Drive, Pine Bluff 71603	535-2372
GE	Rogers, Henry L.	1801 West 40th, Suite 5-A, Pine Bluff 71603	536-7660
OBG	Ross, Robert L.	1305 West 43rd, Pine Bluff 71603	534-8993
AN	Samuel, Ferdinand K.	Post Office Box 1272, Pine Bluff 71613	535-7457
OTO	Shorts, Stephen D.	Post Office Box 1550, Pine Bluff 71613	535-5719
GYN	Simmons, Calvin R.	1714 West 42nd, Pine Bluff 71603	535-3213
NS	Simpson, P. B., Jr.	1801 West 40th, Suite 4-A, Pine Bluff 71603	536-8547
PD	Smith, Paul L.	Post Office Box 1648, Pine Bluff 71613	536-4566
	Smith, Robert J.	(Address Unknown)	
RD	Stern, Howard S.	2404 West 47th, Pine Bluff 71603 (Res.)	534-8281
GS	Sullenberger, A. G.	1726 West 42nd, Pine Bluff 71603	534-4407
FP	Tanner, Ronald D.	1718 Doctors Drive, Pine Bluff 71603	535-2372
PTH	Tisdale, Alfred D., Jr.	1515 West 42nd, Pine Bluff 71603	541-7524
PD	Townsend, Thomas E.	1420 West 43rd, Pine Bluff 71603	534-6210
IM	Tracy, C. Clyde	4201 Mulberry, Pine Bluff 71603	535-2200
FP	Waheed, Atiya N.	1608 West 42nd, Pine Bluff 71603	536-9700
GS	Wilkins, Walter J., Jr.	1220 West 42nd, Pine Bluff 71603	535-2100
IM	Wineland, Herbert L.	1710 West 42nd, Pine Bluff 71603	534-3561
A	Worrell, Aubrey M., Jr.	3900 Hickory, Pine Bluff 71603	535-8200
FP	Yalamanchili, R. R.	1421 Cherry, Pine Bluff 71601	541-0770

JOHNSON COUNTY

FP	Fraser, Robert E.	Post Office Box 668, Clarksville 72830	754-8384
FP	McAuley, John R.	Post Office Box 668, Clarksville 72830	754-8384
GS	McKelvey, Richard E.	Post Office Box 440, Clarksville 72830	754-6510
FP	Patterson, Jack T.	Post Office Box 668, Clarksville 72830	754-8384
FP	Pennington, Donald H.	Post Office Box 668, Clarksville 72830	754-8384
RD	Shrigley, Guy P.	Post Office Box 70, Clarksville 72830 (Res.)	754-3236
FP	Taylor, George W.	Post Office Box 668, Clarksville 72830	754-8384
GP	West, Boyce W.	Post Office Box 220, Clarksville 72830	754-6661

LAFAYETTE COUNTY

GP	Ditsch, Craig E.	Post Office Box 276, Stamps 71860	533-4461
RD	Lee, Willie J.	3104 Crestridge, Texarkana 75503 (Res.)	214-793-2815

LAWRENCE COUNTY

GP	Cruse, Edward J.	Post Office Box 116, Black Rock 72415	878-6209
RD	Dickey, A. B.	704 Northwest 3rd, Walnut Ridge 72476 (Res.)	886-5377
GP	Elders, J. B.	Post Office Box 595, Walnut Ridge 72476	886-3162
FP	Hughes, Joe E.	Post Office Box 719, Walnut Ridge 72476	886-3543
IM	Joseph, Ralph F.	Post Office Box 109, Walnut Ridge 72476	886-3211
FP	Lancaster, Ted S.	Post Office Box 719, Walnut Ridge 72476	886-3543
IM	Ouevillon, Robert D.	421 Southwest 3rd, Walnut Ridge 72476	886-9575
R	Smoot, John D.	Post Office Box 934, Jonesboro 72403	886-1245
FP	Spades, Sebastian A., III	Post Office Box 719, Walnut Ridge 72476	886-3543
GS	Wilson, Stephen K.	Post Office Box 591, Walnut Ridge 72476	886-6409

LEE COUNTY

GP	Fields, E. C.	77 West Main, Marianna 72360	295-5244
GP	Gray, Dwight W.	110 West Chestnut, Marianna 72360	295-3131
GP	Ly, Duong N.	29 West Tennessee, Marianna 72360	295-2543
GP	Waddy, Leon M., Jr.	530 West Atkins, Marianna 72360	295-5225

Type of Practice	Member's Name	Address	Telephone Number
		LITTLE RIVER COUNTY	
FP	Armstrong, James D	Post Office Box 637, Ashdown 71822	898-3306
IM	Gillean, John A	Post Office Box 818, Ashdown 71822	898-5036
GP	Gillean, Myra M	Post Office Box 818, Ashdown 71822	898-5036
RD	Peacock, Norman W., Jr.	Route 2, Peacock Addition, Ashdown 71822 (Res.)	898-3353
FP	Shelton, Joe G., Jr	2nd and Main Street, Ashdown 71822	898-3306
EM	Wade, Billy K	Post Office Box 126, Ashdown 71822 (Res.)	898-5886
		LOGAN COUNTY	
FP	Baskerville, Jerry R	Post Office Box 625, Paris 72855	963-2132
FP	Daniel, William R	114 West Fourth, Booneville 72927	675-2455
FP	Enns, Wayne P.	Post Office Box 625, Paris 72855	963-2132
FP	Harbison, James D	Post Office Box 327, Booneville 72927	675-2121
GP	Hutson, Sanford E.	Post Office Box 188, Paris 72855	963-6600
FP	Roberts, William J.	114 West Fourth, Booneville 72927	675-2455
FP	Smith, James T.	Post Office Box 286, Paris 72855	963-2191
GP	Ulrich, Guy	Post Office Box 626, Paris 72855	963-6181
FP	Williams, John R	114 West Fourth, Booneville 72927	675-2455
		LONOKE COUNTY	
FP	Abrams, Joe A.	Post Office Box 993, Cabot 72023	843-6528
FP	Braswell, Thomas R.	Post Office Box 130, England 72046	842-2597
FP	Camp, Arthur W.	Post Office Box 547, Hazen 72064	255-3321
FP	Gartman, Joseph F.	Post Office Box 450, Carlisle 72024	552-3211
GP	Harris, Willie R.	Post Office Box 40, England 72046	842-2553
GP	Holmes, Byron E.	305 West Front, Lonoke 72086	676-6560
FP	Inman, Fred C., Jr.	Post Office Box K, Carlisle 72024	552-7575
	Jones, Henry A	Russell, Kentucky	
OM	Kimsey, Warren H.	Remington Arms Company, Lonoke 72086	676-3161
GP	Schumann, Gerald M.	Post Office Drawer A, Des Arc 72040	256-4312
GP	Washburn, C. Yulan	Route 1, Box 877, Ward 72176 (Res.)	843-3335
		MILLER COUNTY	
R	Andrews, A. E., Jr	1311 Rio Grande, Texarkana 75503	774-2121
GS	Barnes, Walter C., Jr.	300 East Sixth, Texarkana 75502	214-774-3211
NS	Bohmfalk, George L.	1001 Main, Texarkana 75501	214-794-4196
#	Bransford, Robert M.	Texarkana	
PD	Burnett, James W	414 Hazel, Texarkana 75502	774-7301
PD	Burns, Billy R	Post Office Box 1409, Texarkana 75504	214-792-7151
PD	Burroughs, James C.	300 East Sixth, Texarkana 75502	774-3211
FP	DeFazio, John V., Jr.	300 East Sixth, Texarkana 75502	774-3211
PD	Deskin, Roy L.	300 East Sixth, Texarkana 75502	774-3211
FP	Dildy, Edwin V	Post Office Box 1409, Texarkana 75504	214-792-7151
OBG	Druff, Gerald H.	300 East Sixth, Texarkana 75502	774-3211
GS	Duncan, Donald L.	300 East Sixth, Texarkana 75502	774-3211
A	Fournier, Donald C.	Post Office Box 1409, Texarkana 75504	214-792-7151
ORS	Green, Barry M	1423 Main, Texarkana 75501	214-794-3661
OBG	Hall, Eric E.	Post Office Box 1409, Texarkana 75504	214-792-7151
PD	Hall, Jon D.	300 East Sixth, Texarkana 75502	774-3211
GYN	Harrell, William B., Jr	Post Office Box 2078, Texarkana 75501	214-792-8231
FP	Harris, C. Lynn	Post Office Box 1409, Texarkana 75504	214-792-7151
OBG	Harrison, Jack W	300 East Sixth, Texarkana 75502	774-3211
GYN	Harrison, James W	300 East Sixth, Texarkana 75502	774-3211
IM	Hughes, Alton K.	300 East Sixth, Texarkana 75502	774-3211
RD	Hughes, R. Paul	3935 Texas Boulevard, Texarkana 75503 (Res.)	214-793-3385
IM	Hutcheson, Fred A., Jr.	300 East Sixth, Texarkana 75502	774-3211
OBG	Jones, John W.	300 East Sixth, Texarkana 75502	774-3211
PTH	Joyce, Frederick E.	Post Office Box 2763, Texarkana 75504	774-2121
GP	Kemp, Karlton H.	408 Hazel, Texarkana 75502	774-5181
IM	Khalil, Sondra L.	Post Office Box 1409, Texarkana 75504	214-792-7151
FP	Kittrell, James B.	1001 Main, Texarkana 75501	214-794-6107
RD	Laws, J. K.	Post Office Box 1378, Texarkana 75504 (Res.)	772-1209
R	Leavelle, Ray W	Post Office Box 689, Texarkana 75504	774-2121
D	Loe, Arlis W	Post Office Box 1409, Texarkana 75504	214-792-7151
R	McGinnis, Robert S.	Post Office Box 1409, Texarkana 75504	214-792-7151
PD	Meredith, Paul D	Post Office Box 1409, Texarkana 75504	214-792-7151
OPH	Newton, Norris L.	Post Office Box 2830, Texarkana 75504	214-792-8541
CD	Osborn, Roger C.	Post Office Box 1409, Texarkana 75504	214-792-7151
IM	Peckham, Richard W	1001 Main, Texarkana 75501	214-794-6121
IM	Rodgers, Nathaniel L.	300 East Sixth, Texarkana 75502	774-3211
U	Rountree, Glen A	300 East Sixth, Texarkana 75502	774-3211
R	Royal, Jack L.	300 East Sixth, Texarkana 75502	774-3211
OTO	Shipp, G. Carl	Post Office Box 5845, Texarkana 75505	214-793-0691
FP	Short, Harold H.	1400 College Drive, Texarkana 75503	214-793-5671
GS	Solomon, J. Alan	Post Office Box 1409, Texarkana 75504	792-7151
GP	Stringfellow, Jerry B	1205 East 35th, Texarkana 75502	773-6745
GS	Tompkins, W. C., Jr	300 East Sixth, Texarkana 75502	774-3211
	Wilhelm, Frieda	Dallas, Texas	
GS	Wren, Herbert B.	Post Office Box 1409, Texarkana 75504	214-792-7151
RD	Yarbrough, Charles P.	Route 8, Box 573, Texarkana 75503 (Res.)	214-794-4744
GS	Young, Mitchell	1406 College Drive, Suite 4, Texarkana 75503	214-792-8264
		MISSISSIPPI COUNTY	
OPH	Aviner, Zvi	10th and Highland, Blytheville 72315	763-2648
OBG	Bell, Mary C	527 North Sixth, Blytheville 72315	763-8890
FP	Biggerstaff, Jerry R	608 West Lee, Osceola 72370	563-3576
IM	Brock, Charles C., Jr	605 North Second, Blytheville 72315	763-1520
U	Campbell, Charles E., Jr	609 Fulton, Blytheville 72315	763-0855
R	Clewans, Harvey W	Post Office Box 108, Blytheville 72316	762-3341
FP	Cole, C. R.	519 North Sixth, Blytheville 72315	763-1554
GP	Cullom, S. Reggie	700 West Keiser, Osceola 72370	563-6512
FP	Elliott, John Q	Post Office Box 747, Blytheville 72316	763-4548
GP	Fairley, Eldon	Post Office Box 68, Osceola 72370	563-6568
FP	Fenaughty, Francis J.	602 West Union, Suite B, Osceola 72370	563-3552
GS	Fergus, R. Scott	Professional Building, Osceola 72370	563-3248
GP	Flannigan, Thomas C	Post Office Box 148, Manila 72442	561-3838
R	Gratz, John F., Jr	100 Morningside Park, Memphis, Tennessee 38104	901-527-5211
#	Green, W. O., Jr	Blytheville	
	Harmon, Harvey C.	Jackson, Tennessee	
PTH	Hart, Sybil R.	Post Office Box 312, Blytheville 72316	762-3346
ORS	Higley, George B., Jr.	10th and Highland, Blytheville 72315	763-3116
FP	Holcomb, Cecil E.	511 North Sixth, Blytheville 72315	763-3922

Type of Practice	Member's Name	Address	Telephone Number
		MISSISSIPPI COUNTY	
IM	Holzner, Charles M.	10th and Highland, Blytheville 72315	762-5360
PD	Hovious, John R, III	515 North Sixth, Blytheville 72315	763-5492
	Hubener, Louis F.	Gainesville, Florida	
IM	Hudson, James H.	602 West Union, Suite C, Osceola 72370	563-6504
PTH	Husted, G. Scott	Post Office Box 108, Blytheville 72316	762-3345
IM	Jones, Herbert	Post Office Box 321, Blytheville 72316	763-8032
IM	Jones, Joseph V	605 North Second, Blytheville 72315	763-1520
RD	Massey, L. D.	4367 East Mallory, Memphis, Tennessee 38117 (Res.)	901-761-9057
OBG	Melton, Clinton G.	10th and Highland, Blytheville 72315	763-4251
	Moreno, Francisco G.	Knoxville, Tennessee	
FP	Osborne, Merrill J.	10th and Highland, Blytheville 72315	762-5360
GP	Pollock, George D.	608 West Lee, Osceola 72370	563-3576
OBG	Rauls, Stephen R	10th and Highland, Suite H, Blytheville 72315	762-1030
GP	Rhodes, R F.	608 West Lee, Osceola 72370	563-3576
GP	Rodman, T. N	Post Office Box 260, Leachville 72438	539-6337
FP	Russell, James D	10th and Highland, Suite D, Blytheville 72315	762-5360
GS	Sellers, Kenneth D	10th and Highland, Suite E, Blytheville 72315	763-1307
FP	Shaneyfelt, E. A	Post Office Box 630, Manila 72442	561-4421
GS	Sims, H. C., Jr.	525 North Tenth, Blytheville 72315	763-0521
FP	Smith, Ronald D	620 West Walnut, Blytheville 72315	763-4541
OPH	Webb, Jack J.	Post Office Box 547, Blytheville 72316	762-2131
OBG	Workman, W Wayne	527 North Sixth, Blytheville 72315	763-8890
		MONROE COUNTY	
FP	David, Neylon C, Jr	108 West Ash, Brinkley 72021	734-2212
GP	Miya, Robert T.	106 North New York, Brinkley 72021	734-4847
GP	Pupsta, Benedict F.	Post Office Box 250, Clarendon 72029	747-3321
GP	Stone, Herd E.	Post Office Box A, Holly Grove 72069	462-3393
GP	Walker, Walter L.	114 South New Orleans, Brinkley 72021	734-3242
FP	Williams, J P., Jr	127 South New Orleans, Brinkley 72021	734-1331
		NEVADA COUNTY	
GP	Avery, Charles D.	427 East 6th, Prescott 71857	887-2625
GS	Corbell, Carroll E.	Post Office Box 582, Prescott 71857	887-6687
GP	Crow, H. Blake	327 East 2nd South, Prescott 71857	887-3846
RD	Hairston, Glenn G	327 East 3rd South, Prescott 71857 (Res.)	887-2155
GP	Peeples, George R	305 East Main, Gurdon 71743	353-4422
FP	Portis, Richard P.	301 Hale Avenue, Prescott 71857	887-6651
FP	Russell, James T	301 Hale Avenue, Prescott 71857	887-6651
GP	Scarborough, John W	Third and Walnut, Gurdon 71743	353-4486
FP	Young, Michael C.	301 Hale Avenue, Prescott 71857	887-6651
		OUACHITA COUNTY	
IM	Dedman, J. L., Jr	415 Hospital Drive, Camden 71701	836-5013
FP	Dedman, William D.	415 Hospital Drive, Camden 71701	836-5013
EM	Dobson, Jack T	209 North Blake, Pine Bluff 71601	536-6600
#	Ellis, Joseph L.	Camden	
GS	Fohn, Charles H	415 Hospital Drive, Camden 71701	836-5013
GP	Guthrie, James	Post Office Box 757, Camden 71701	836-8101
FP	Hout, Judson N	Post Office Box 757, Camden 71701	836-8101
RD	Jameson, John B., Jr.	Post Office Box 994, Camden 71701 (Res.)	836-6486
FP	Kendall, Jerry R	Post Office Box 757, Camden 71701	836-8101
FP	Miller, John H.	Post Office Box 851, Hampton 71744	798-4290
FP	Nunnally, Robert H	Post Office Box 757, Camden 71701	836-8101
IM	Ozment, L. V	Post Office Box 757, Camden 71701	836-8101
FP	Sanders, Cal R	Post Office Box 757, Camden 71701	836-8101
R	Thorne, Arthur E.	Post Office Box 797, Camden 71701	836-1221
		PHILLIPS COUNTY	
GP	Barrow, John H., Jr.	614 Oakland, Helena 72342	338-8622
FP	Bell, L. J. Patrick	626 Poplar, Helena 72342	338-8163
OPH	Berger, Alfred A.	801 Perry, Helena 72342	338-8781
FP	Capes, Bernard	Post Office Box 2398, West Helena 72390	572-2621
FP	Ellis, William A., Jr.	603 Porter, Helena 72342	338-3037
GS	Elovitz, Maurice J	Post Office Box 808, Helena 72342	338-7218
GP	Faulkner, Henry N	513 Porter, Helena 72342	338-7401
GP	Kirkman, C. M T.	1105 Perry, Helena 72342	338-8712
GP	McCarty, Charles P.	513 Porter, Helena 72342	338-7401
FP	McCarty, G Eddie, Jr.	107 Hickory Hill, Helena 72342	338-8377
GP	McDaniel, Marion A	Post Office Box 769, Helena 72342	338-8308
GER	Miller, Robert D., Jr.	616 Elm, Helena 72342	338-8531
GP	Paine, William T.	661 Oakland, Helena 72342	572-6413
PTH	Patton, Francis M	Post Office Box 511, Helena 72342	338-6411
GP	Pham, Anh N	717 North Tyler, Little Rock 72205	661-9823
AN	Vasudevan, Kanaka	133-A Newman Drive, Helena 72342	338-6749
U	Vasudevan, P.	133-A Newman Drive, Helena 72342	338-6749
OBG	Whaley, Lance D	671 Oakland, Helena 72342	572-1094
GP	Wise, James E., Jr.	Post Office Box 66, Marvell 72366	829-2386
		POLK COUNTY	
R	Baldwin, Michael H.	Wilhelmina Medical Center, Mena 71953	394-6100
FP	Carrington, Stephens D.	Northside Shopping Center, Mena 71953	394-1968
FP	Fried, David D.	Route 3, Box 194, Mena 71953	394-5880
GP	McClard, Helen	Post Office Box 655, Mount Ida 71957	867-2105
FP	Redman, Pierre P.	513 Mena, Mena 71953	394-2277
GP	Rogers, Henry N	600 West 7th, Mena 71953	394-3345
RD	Wood, John P.	1107 Reine, Mena 71953 (Res.)	394-3223
		POPE COUNTY	
FP	Ashcraft, Ted E.	Post Office Box 1648, Russellville 72801	968-7170
GP	Audibert, Jeff M.	Post Office Box 187, Atkins 72823	641-2992
OTO	Austin, Nathan F.	106 South Inglewood, Russellville 72801	968-5261
GS	Bachman, David S	3105 West Main Place, Russellville 72801	968-2345
FP	Barton, A Dale	1207 North Church, Atkins 72823	641-2255
OBG	Battles, Larry D	200 North Ouanah, Russellville 72801	968-1011

Type of Practice	Member's Name	Address	Telephone Number
		POPE COUNTY	
U	Bell, Robert A.	2301 West Main, Russellville 72801	968-3323
IM	Berner, Dennis W	3105 West Main Place, Russellville 72801	968-2345
AN	Birum, Patricia J.	Post Office Box 785, Russellville 72801	968-5670
PD	Bost, R. Kingsley	3105 West Main Place, Russellville 72801	968-2345
U	Brown, Charles H.	2501 West Main, Russellville 72801	968-8765
R	Burgess, James G.	Post Office Box 1647, Russellville 72801	968-7930
	Carter, J. Brad	(Address Unknown)	
FP	Carter, James M.	3105 West Main Place, Russellville 72801	968-2345
GS	Crumpler, Joe B	3105 West Main Place, Russellville 72801	968-2345
OBG	Dunn, Donald L.	200 North Quanah, Russellville 72801	968-1011
D	Galloway, William W	1602 West Main, Russellville 72801	968-6969
FP	Henry, J. Arnold	3105 West Main Place, Russellville 72801	968-2345
IM	Hill, Donald F.	3105 West Main Place, Russellville 72801	968-2345
ORS	Honghiran, Ted	2504 West Main, Suite A, Russellville 72801	968-3200
GP	Kimball, G. Howard	1919 West Main, Russellville 72801	968-3611
R	King, John W	Post Office Box 1647, Russellville 72801	968-7930
GP	King, W. Ernest, Jr	3105 West Main Place, Russellville 72801	968-2345
ORS	Kolb, James M., Jr.	305 Skyline Drive, Russellville 72801	968-2124
OBG	Lahr, Charles H.	3105 West Main Place, Russellville 72801	968-2345
FP	Lane, Walter H., Jr.	Post Office Box 324, Dover 72837	331-2828
OPH	Lawrence, Frank M.	Post Office Box 1107, Russellville 72801	968-7302
OPH	Lovell, Richard K	510 Hilltop Drive, Russellville 72801 (Res.)	968-3588
FP	Lowrey, Douglas H	809 West Main, Russellville 72801	968-2156
OPH	Lyford, Joe H., Jr	Post Office Box 1107, Russellville 72801	968-7302
GP	Malone, George E.	Post Office Box 187, Atkins 72823	641-2992
FP	Mauch, E. Jane	3105 West Main Place, Russellville 72801	968-2345
ORS	May, Robert H	305 Skyline Drive, Russellville 72801	968-7711
FP	Meyer, Kelly H.	Post Office Box 1648, Russellville 72801	968-7170
OPH	Mobley, Max J	Post Office Box 400, Russellville 72801	968-2242
GP	Morgan, Scott I.	Route 1, Box 161, Danville 72833	495-7699
GS	Myers, James M	3105 West Main Place, Russellville 72801	968-2345
FP	New, Kenneth O.	3105 West Main Place, Russellville 72801	968-2345
R	Riley, Don C.	Post Office Box 1647, Russellville 72801	968-7930
PTH	Stolz, Gerald A., Jr	Post Office Box 925, Russellville 72801	968-6781
FP	Teeter, Stanley D	3105 West Main Place, Russellville 72801	968-2345
IM	Thurlby, W. Robert	3105 West Main Place, Russellville 72801	968-2345
FP	Turner, Finley P	Post Office Box 1598, Russellville 72801	968-2156
IM	Wilkins, Charles F., Jr	3105 West Main Place, Russellville 72801	968-2345
GP	Williams, David M.	Post Office Box 1598, Russellville 72801	968-2156
EM	Young, Sandra S	1800 West Main, Russellville 72801	968-2841
		PULASKI COUNTY	
RD	Abbott, William W	1204 Biscayne Drive, Little Rock 72207 (Res.)	225-2882
IM	Abraham, James H	10001 Lile Drive, Little Rock 72205	227-8000
NS	Adametz, John H	750 Medical Towers Building, Little Rock 72205	225-0880
PUD	Adamson, James S	890 Medical Towers Building, Little Rock 72205	224-0110
OPH	Alford, T. Dale	5700 West Markham, Little Rock 72205	664-5100
OBG	Allen, E. Stewert	1100 North University, Little Rock 72207	664-9191
CDS	Allen, John E., Jr.	1050 Medical Towers Building, Little Rock 72205	227-8300
PS	Allen, Thomas H "Bill"	413 North University, Little Rock 72205	664-0900
OBG	Alston, Phillip R.	2000 Fendley Drive, Suite 101, North Little Rock 72114	758-9251
IM	Amir, Jacob	10001 Lile Drive, Little Rock 72205	227-8000
FP	Anderson, Leslie F	1310 North Center, Lonoke 72086	676-5123
AN	Angeles, Jana S	Memorial Hospital, North Little Rock 72114	771-3270
PTH	Araoz, Carlos A	#1 St. Vincent Circle, #220, Little Rock 72205	661-4116
OM	Armstrong, Howard M	340 Doctors Park Building, Little Rock 72205	227-7888
PD	Arrington, Robert W	1721 Maryland, Little Rock 72202	370-1444
AN	Ashcraft, Keith E.	500 South University, Suite 720, Little Rock 72205	661-4180
RD	Ault, Charles C.	3 Helen Drive, Sherwood 72116 (Res.)	835-1046
RD	Autry, Daniel H	1900 North Tyler, Little Rock 72207 (Res.)	664-2332
	Babaian, Richard J	Melbourne, Florida	
GS	Baber, John C., Jr.	500 South University, Suite 421, Little Rock 72205	664-2434
GE	Baber, John T.	500 South University, Suite 307, Little Rock 72205	663-9420
P	Backus, Joe T	21 Bridgeway Road, North Little Rock 72118	771-1500
OT	Bailey, H. A. Ted, Jr	1200 Medical Towers Building, Little Rock 72205	227-5050
PTH	Baker, Glen F.	4301 West Markham, Slot 600, Little Rock 72201	661-5603
U	Baker, Johnson J	500 South University, Suite 512, Little Rock 72205	664-4364
IM	Baker, Susan W	11215 Hermitage Road, #100, Little Rock 72211	225-2661
PD	Baldwin, Deane G	500 South University, Little Rock 72205	664-4044
OBG	Baldwin, Maxwell R	880 Medical Towers Building, Little Rock 72205	224-5050
FP	Ballard, Clarence E., Jr	4202 South University, Little Rock 72204	562-4838
GYN	Barclay, David L.	500 South University, Suite 614, Little Rock 72205	664-8502
GYN	Bard, David S	4301 West Markham, Slot 518, Little Rock 72201	661-5923
FP	Barg, Charles D	100 Doctors Park Building, Little Rock 72205	224-5220
CD	Barlow, Brian E.	#5 St. Vincent Circle, Little Rock 72205	664-5860
ORS	Barnett, David C.	110 Doctors Park Building, Little Rock 72205	227-4150
U	Barnett, Troy F	#1 St. Vincent Circle, #320, Little Rock 72205	664-1762
R	Barnhard, Howard J.	4301 West Markham, Slot 556, Little Rock 72201	661-5740
FP	Barron, Edwin N., Jr.	10121 Rodney Parham Road, Little Rock 72207	225-9222
GS	Bauer, Frank M.	500 South University, Suite 701, Little Rock 72205	664-2245
CD	Bauman, David C	#5 St. Vincent Circle, Little Rock 72205	664-5860
R	Bearden, James R.	1100 Medical Towers Building, Little Rock 72205	227-5240
PUD	Beaton, J. Neal	10001 Lile Drive, Little Rock 72205	227-8000
OPH	Becquet, Norbert J.	115 West 6th, Little Rock 72201	375-4419
FP	Belknap, Melvin L.	1801 Maple, North Little Rock 72114	758-1002
RD	Bennett, Eaton W	1003 Loretta Lane, Little Rock 72207 (Res.)	225-2478
CD	Bennett, F. Anthony, Jr	#1 Financial Centre, Suite 241, Little Rock 72211	224-9001
GS	Berry, Frederick B.	1060 Medical Towers Building, Little Rock 72205	224-3424
OPH	Berry, Robert L.	1000 Medical Towers Building, Little Rock 72205	227-6980
GS	Bevans, David W., Jr	406 West Pershing, North Little Rock 72114	758-1620
	Billie, James D.	Philadelphia, Pennsylvania	
R	Binet, Eugene F	4300 West 7th, Little Rock 72205	660-2009
D	Biondo, Raymond V	Post Office Box 921, North Little Rock 72115	758-2588
CD	Bishop, William B	10001 Lile Drive, Little Rock 72205	227-8000
RD	Black, H. Thurston	10 Armistead Road, Little Rock 72207 (Res.)	664-4759
U	Black, Hal R.	200 Doctors Park Building, Little Rock 72205	225-9755
GE	Blackshear, Jack L.	650 Medical Towers Building, Little Rock 72205	227-8074
ORS	Blankenship, William F	1100 North University, Little Rock 72207	664-5720
PD	Boellner, Samuel W	300 Medical Towers Building, Little Rock 72205	227-4750
CD	Boger, James E.	Post Office Box 5600, Little Rock 72215	227-7596
NS	Boop, Warren C., Jr	4301 West Markham, Slot 507, Little Rock 72201	661-5270
N	Bornhofen, John H.	8924 Kanis Road, Little Rock 72205	227-4750
PD	Bost, Roger B	804 Wolfe, Little Rock 72201	370-1001

Type of Practice	Member's Name	Address	Telephone Number
NM	Boyd, Charles M.	4301 West Markham, Slot 581, Little Rock 72201	661-5760
U	Bradburn, Curry B , Jr	200 Doctors Park Building, Little Rock 72205	225-9755
OPH	Brainard, Jay O.	#5 St Vincent Circle, Suite 101, Little Rock 72205	664-5354
P	Brandt, Rosemary C.	500 South University, Suite 808, Little Rock 72205	664-8444
R	Brenner, George H , Jr	1100 Medical Towers Building, Little Rock 72205	227-5240
D	Bressinck, Renie E.	950 Medical Towers Building, Little Rock 72205	227-8422
RD	Briggs, Barnett P	2805 Foxcroft Square, #403, Little Rock 72207 (Res.)	225-1203
IM	Brinkley, Roy A	220 Doctors Park Building, Little Rock 72205	227-6350
OTO	Brizzolara, A. J.	500 South University, Little Rock 72205	664-4381
P	Broach, R Fred	407 North Elm, Searcy 72143	268-4181
RD	Brown, Martha M	(Address unknown)	
GE	Browning, Donald G	409 North University, Little Rock 72205	664-6980
AN	Browning, Stanley K	9601 Lile Drive, Plaza A, Little Rock 72205	227-9114
ADM	Bruce, Thomas A	4301 West Markham, Slot 550, Little Rock 72201	661-5350
RD	Buchanan, Francis R	44 Pine Manor, Little Rock 72207 (Res.)	664-6557
PD	Buchanan, Gilbert A	500 South University, Suite 200, Little Rock 72205	664-4117
GS	Buchman, Joseph A	500 South University, Suite 508, Little Rock 72205	664-9116
GS	Buchman, Joseph K.	500 South University, Little Rock 72205	664-9116
IM	Bucolo, Anthony P	1000 North University, Suite 100, Little Rock 72207	661-0060
FP	Buford, Joe L	1801 Maple, North Little Rock 72114	758-1002
AN	Bumpas, Joe H	500 South University, Suite 308, Little Rock 72205	664-4532
PTH	Burger, Robert A	Baptist Medical Center, Little Rock 72205	227-2888
TS	Burnett, Hugh F.	990 Medical Towers Building, Little Rock 72205	227-9080
FP	Burnham, William W	1310 Cantrell, Little Rock 72201	375-5381
FP	Burrow, Dennis R	550 Edgewood, Suite 118, Maumelle 72118	851-2170
RD	Byrd, Lucas M , Jr	36 Lakeshore Drive, Little Rock 72204 (Res)	565-6046
PM	Cadwallader, Chester S , III	1120 Marshall, #515, Little Rock 72202	375-1618
OPH	Calcote, Robert A	3629 McCain Boulevard, North Little Rock 72116	771-1166
GS	Caldwell, Fred T , Jr.	4301 West Markham, Slot 520, Little Rock 72201	661-5509
FP	Calhoon, J. Dale	#2 Crestview Plaza, Jacksonville 72076	982-4551
R	Calhoun, Joseph D	500 South University, Suite 108, Little Rock 72205	661-3671
FP	Calhoun, Richard A	330 Doctors Park Building, Little Rock 72205	227-6363
TS	Campbell, Gilbert S	4301 West Markham, Slot 520, Little Rock 72201	661-6177
R	Campbell, James W	500 South University, Suite 101, Little Rock 72205	664-3914
A	Caplinger, Kelsy J.	11215 Hermitage Road, #104, Little Rock 72211	224-1156
RD	Carnahan, Robert G	12660 Rivercrest Drive, Little Rock 72212 (Res)	224-2274
FP	Carson, Layne E	4300 West 7th, Little Rock 72205	661-1202
FP	Carter, Jerry L.	12361 Hinson Road, Little Rock 72212	224-2875
R	Caruthers, Samuel B , Jr	1100 Medical Towers Building, Little Rock 72205	227-5240
GS	Casali, Robert E	200 Medical Towers Building, Little Rock 72205	224-5666
FP	Casper, Robert B	4202 South University, Little Rock 72204	562-4838
RD	Cazort, Alan G.	5117 Edgewood, Little Rock 72207 (Res.)	663-3623
ORS	Chakales, Harold H	405 North University, Little Rock 72205	664-1500
P	Chambers, Donald S	#1 St. Vincent Circle, #140, Little Rock 72205	663-4337
OPH	Chandler, Billy M.	406 West Pershing, North Little Rock 72114	758-1651
FP	Chapman, Jerry C.	Post Office Box M, Cabot 72023	843-6585
OPH	Chappell, Carol W	#5 St Vincent Circle, Little Rock 72205	661-1123
#	Chappell, Ewin S	Little Rock	
FP	Chears, David B	330 Doctors Park Building, Little Rock 72205	225-6363
R	Chisholm, Dan P	500 South University, Little Rock 72205	664-3914
PD	Choate, Robert B.	516 West Pershing, North Little Rock 72114	758-1530
RD	Christeson, William W	7 Sunset Circle, Little Rock 72207 (Res.)	666-0566
RD	Christian, John D.	101 Shamrock Drive, Little Rock 72205 (Res.)	664-7442
FP	Chudy, Amail	1801 Maple, North Little Rock 72114	758-1002
FP	Church, Beresford L.	Post Office Box 246, North Little Rock 72115	753-3130
GYN	Church, Marion M	410 West Pershing, North Little Rock 72114	758-1029
AN	Clark, Richard B	4301 West Markham, Slot 515, Little Rock 72201	661-6117
GE	Clift, Steven A	2000 Fendley Drive, North Little Rock 72114	758-2041
OPH	Clifton, Cliff	516 Scott, Little Rock 72201	374-6338
FP	Cobb, Jock S	North Hills Family Clinic, Sherwood 72116	835-7238
R	Cockrill, H. Howard, Jr	500 South University, Little Rock 72205	664-3914
OTO	Colclasure, Joe B.	1200 Medical Towers Building, Little Rock 72205	227-5050
RD	Cook, Raymond C	5500 Sherwood, Little Rock 72207 (Res.)	663-1550
P	Cooper, Ruth Anne	5726 Stonewall Road, Little Rock 72207 (Res)	664-9800
OBG	Cornell, Paul J	500 South University, Suite 413, Little Rock 72205	664-2277
FP	Cornett, James K.	5326 West Markham, Little Rock 72205	664-6603
OPH	Cosgrove, Kingsley W , Jr	630 Medical Towers Building, Little Rock 72205	224-0400
ORS	Costas, Bronier L.	4301 West Markham, Slot 566, Little Rock 72201	661-5590
RD	Craig, Marion S., Jr	300 Beckwood Road, Little Rock 72205 (Res.)	666-1567
GYN	Crews, J Travis	500 South University, Suite 815, Little Rock 72205	664-8505
CRS	Crocker, Charles H.	500 South University, Suite 212, Little Rock 72205	664-1272
OPH	Cross, J B	500 South University, Suite 113, Little Rock 72205	666-0126
ORS	Crow, Joe W	2003 Fendley Drive, North Little Rock 72114	771-1600
CDS	Crow, R Lewis	600 Medical Towers Building, Little Rock 72205	227-9434
R	Dalrymple, Glenn V	1100 Medical Towers Building, Little Rock 72205	227-5240
FP	Daugherty, Joe D	Post Office Box 336, Jacksonville 72076	982-0576
FP	Daugherty, John L	Post Office Box 336, Jacksonville 72076	982-0576
AN	Dean, David M.	9601 Lile Drive, Plaza A, Little Rock 72205	227-9114
RD	Dean, Gilbert O	220 Ridgeway, Little Rock 72205 (Res)	663-0668
OPH	Deer, Philip J., Jr.	8500 West Markham, Suite 133, Little Rock 72205	224-4701
RD	Dennis, James L	824 Ridgecrest Drive, Little Rock 72205 (Res)	663-2447
N	Denson, William D.	2003 Fendley Drive, North Little Rock 72114	753-5462
OBG	DesLauriers, S. Killeen	880 Medical Towers Building, Little Rock 72205	224-5050
OT	Dickins, John R E.	1200 Medical Towers Building, Little Rock 72205	227-5050
NS	Dickins, Robert D., Jr	750 Medical Towers Building, Little Rock 72205	225-0880
ORS	Dickson, D. Bud	#5 St. Vincent Circle, #100, Little Rock 72205	663-4163
FP	Dillard, Daniel C	4202 South University, Little Rock 72204	562-4838
R	Diner, Wilma C.	4301 West Markham, Slot 556, Little Rock 72201	661-5745
R	Dodd, Doyne	1100 Medical Towers Building, Little Rock 72205	227-5240
RD	Dodge, Eva F	Box 1681 (Worthen Bank), Little Rock 72203 (Res.)	NF
#	Dornenburg, Peter R	Little Rock	
P	Douglas, Warren M.	260 Medical Towers Building, Little Rock 72205	224-2447
U	Downs, Ralph A	#1 St Vincent Circle, #320, Little Rock 72205	664-1762
PDC	Dungan, William T.	804 Wolfe, Little Rock 72201	378-0498
FP	Durham, James W	#2 Crestview Plaza, Jacksonville 72076	982-4551
D	Dwyer, Gregory A	500 South University, Suite 501, Little Rock 72205	664-4161
RD	Easley, Edgar J.	220 Linwood Court, Little Rock 72205 (Res.)	663-5086
ORS	Easter, Rex M.	601 North University, Little Rock 72205	666-0144
P	Eckart, Emile P.	4313 West Markham, Little Rock 72201	664-4500, Ext. 232
AN	Edge, Otis H	500 South University, Suite 720, Little Rock 72205	664-8489
FP	Farmer, Joseph F.	1225 Breckenridge, Little Rock 72205	225-2594
P	Farrell, Robert E.	28 Bridgeway Road, North Little Rock 72118	771-4050
FP	Farris, Guy R., Jr	6213 Lee Avenue, Little Rock 72205	664-2115
IM	Fendley, Jack T.	2011 Fendley Drive, North Little Rock 72114	771-0300
GE	Fernandez, Agustin	2000 Fendley Drive, North Little Rock 72114	758-2041
R	Ferris, Ernest J	4301 West Markham, Slot 556, Little Rock 72201	661-5740
FP	Fewell, Ronald D	Post Office 459, Jacksonville 72076	982-2141

Type of Practice	Member's Name	Address	Telephone Number
GS	Fielder, Charles R.	406 West Pershing, North Little Rock 72114	758-1620
U	Finan, Barre F.	200 Doctors Park Building, Little Rock 72205	225-9755
R	Fincher, Robert L.	1100 Medical Towers Building, Little Rock 72205	227-5240
U	Finkbeiner, Alex E.	4301 West Markham, Slot 540, Little Rock 72201	661-5240
A	Fiser, P Martin	Post Office Box 5675, Little Rock 72215	227-5210
PD	Fiser, Robert H.	1721 Maryland, Little Rock 72202	371-9192
#	Fitzgibbon, Carney, Jr.	Little Rock	
PH	Fitzhugh, A. Stuart	4815 West Markham, Little Rock 72205	661-2242
FP	Flack, James V, Jr	424 North University, Little Rock 72205	664-4810
IM	Flanagan, William H.	Post Office Box 21095, Little Rock 72212	224-9001
NS	Flanigan, Stevenson	4301 West Markham, Slot 507, Little Rock 72201	661-5270
RD	Fletcher, Elizabeth D	Ouapaw Towers, Apt. #4-K, Little Rock 72202 (Res.)	372-6902
NS	Fletcher, Thomas M	500 South University, Suite 207, Little Rock 72205	664-3021
HEM	Flippin, Tony A.	500 South University, Suite 219, Little Rock 72205	664-4820
IM	Florez, James P.	#1 Lile Court, Suite 201, Little Rock 72205	224-6294
GYN	Floyd, Bill G	210 Doctors Park Building, Little Rock 72205	224-6770
PTH	Fody, Edward P	4300 West 7th, Little Rock 72205	660-2045
U	Fraiser, Lacy P	200 Doctors Park Building, Little Rock 72205	225-9755
A	France, Gene L.	11215 Hermitage Road, #104, Little Rock 72211	224-1156
PD	Fraser, Eric A.	516 West Pershing, North Little Rock 72114	758-1530
OBG	Fuller, C. Dale	1924 Fendley Drive, North Little Rock 72114	758-3774
OPH	Fulmer, John M.	5410 West Markham, Little Rock 72205	664-3142
	Galbraith, Jo Etta	Irving, Texas	
OTO	Gardner, Guy F.	300 Medical Towers Building, Little Rock 72205	227-4863
PS	Gay, Ellery C., Jr.	#2 Lile Court, Little Rock 72205	224-1044
R	Gettys, Joseph M, Jr	1100 Medical Towers Building, Little Rock 72205	227-5240
N	Gibson, Gordon L.	8924 Kanis Road, Little Rock 72205	227-4750
PUD	Giglia, Anthony R, III	1000 North University, Little Rock 72207	666-5311
NS	Giles, Wilbur M	750 Medical Towers Building, Little Rock 72205	225-0880
GYN	Gillespie, A Tharp	500 South University, Suite 712, Little Rock 72205	664-9555
AN	Glenn, Wayne B.	500 South University, Suite 308, Little Rock 72205	664-4532
AN	Glidden, Michael L.	500 South University, Suite 720, Little Rock 72205	664-8489
END	Glover, Lawson E., Jr.	10001 Lile Drive, Little Rock 72205	227-8000
R	Glover, W Clyde	1100 Medical Towers Building, Little Rock 72205	227-5240
GS	Gocio, John C.	990 Medical Towers Building, Little Rock 72205	227-9080
IM	Golden, William E.	4301 West Markham, Slot 641, Little Rock 72201	661-5116
PDS	Golladay, E Stevers	804 Wolfe, Little Rock 72201	370-1446
P	Good, Henry H.	#1 St. Vincent Circle, #340, Little Rock 72205	664-1060
RD	Gordon, Vida H	9900 Treasure Hill, Little Rock 72205 (Res.)	225-4452
PD	Gosser, Bob L.	516 West Pershing, North Little Rock 72114	758-1530
CD	Goza, George M., Jr	500 South University, Suite 318, Little Rock 72205	664-9535
GS	Graham, G Grimsley	990 Medical Towers Building, Little Rock 72205	227-9080
RD	Gray, Edwin F.	11901 Fairway Drive, Little Rock 72212 (Res.)	224-0220
OBG	Green, William O., III	1924 Fendley Drive, North Little Rock 72114	758-3774
GE	Greenway, C. Don	409 North University, Little Rock 72205	664-6980
RD	Greutter, John E., Jr	2112 North Beechwood, Little Rock 72207 (Res.)	663-1547
ORS	Grimes, H. Austin	Post Office Box 5270, Little Rock 72215	224-6900
RD	Growdon, James H	17 Wingate, Little Rock 72205 (Res.)	225-2484
D	Guin, Jere D.	4301 West Markham, Slot 576, Little Rock 72201	661-5110
FP	Gustavus, John L	2007 Fendley Drive, North Little Rock 72114	758-9350
GYN	Hagler, James L.	500 South University, Suite 400, Little Rock 72205	664-5330
IM	Hall, A D	500 South University, Suite 306, Little Rock 72205	664-0027
U	Hall, A David	500 South University, Suite 512, Little Rock 72205	664-4364
PD	Hall, R Whit	Post Office Box 5597, Little Rock 72215	227-6727
PUD	Hampton, John R.	5810 West 10th, #610, Little Rock 72204	661-9393
OPH	Hankins, Edwin, III	500 South University, Little Rock 72205	666-0311
OPH	Hardberger, R E.	#1 St Vincent Circle, #120, Little Rock 72205	661-0450
GE	Hardin, Ronald D.	107 Medical Towers Building, Little Rock 72205	224-9100
AN	Harger, C Harold	9601 Lile Drive, Plaza A, Little Rock 72205	227-9114
CD	Hargrove, Joe L.	5326 West Markham, Suite 10, Little Rock 72205	664-0941
IM	Harper, Ernest H	400 West Pershing, North Little Rock 72114	758-2294
FP	Harper, Gary E.	123 Pearl, Little Rock 72205	375-3000
P	Harrendorf, Cagle	500 South University, Suite 320, Little Rock 72205	663-6346
TR	Harris, Donald R	Post Office Box 7509, Little Rock 72212	664-8573
N	Harris, Ruben M.	4313 West Markham, Little Rock 72205	664-4500, Ext 212
P	Harris, T. Stuart	21 Bridgeway Road, North Little Rock 72118	771-4570
NM	Harris, William T	500 South University, Suite 108, Little Rock 72205	664-3914
P	Harrison, A Vale	930 Medical Towers Building, Little Rock 72205	225-7433
FP	Harrison, Roy E.	8824 Chicot Road, Little Rock 72209	562-8600
OBG	Harrison, William E.	500 South University, Suite 711, Little Rock 72205	664-9232
P	Hawley, Harold B	11500 Rodney Parham Road, Little Rock 72212	225-3156
GS	Hayden, William F.	500 South University, Suite 421, Little Rock 72205	664-2434
PS	Hayes, J Harry, Jr	#1 St. Vincent Circle, #310, Little Rock 72205	666-2811
FP	Hayes, Richard L.	#2 Crestview Plaza, Jacksonville 72076	982-4551
TR	Haynes, W Ducote	500 South University, Suite 108, Little Rock 72205	664-3914
IM	Hazlewood, James B	11121 North Rodney Parham Road, Little Rock 72212	224-0794
U	Headstream, James W	500 South University, Little Rock 72205	664-4364
P	Hearnsberger, Henry G., Jr	4313 West Markham, Little Rock 72205	664-4500
A	Hedges, Harold H.	424 North University, Little Rock 72205	664-4810
A	Hefley, Bill F.	Post Office Box 5675, Little Rock 72215	227-5210
FP	Hendren, Michael C.	280 Doctors Park Building, Little Rock 72205	227-6226
P	Henker, Fred O.	4301 West Markham, Slot 506, Little Rock 72201	661-5266
OBG	Henry, C. Reid, Jr.	500 South University, Suite 702, Little Rock 72205	664-4191
GYN	Henry, Charles R., Sr.	500 South University, Little Rock 72205	664-4191
N	Henry, G Morrison	8924 Kanis Road, Little Rock 72205	227-4750
OPH	Henry, J. Forrest, Jr	23 Wingate, Little Rock 72201	374-6338
OPH	Henry, Richard Y	312 West Pershing, North Little Rock 72114	758-7627
PD	Henry, Robert L., Jr	500 South University, Suite 302, Little Rock 72205	664-4044
R	Henry, William T	1100 Medical Towers, Little Rock 72205	227-5240
IM	Herron, Jerry M.	#1 Lile Court, Suite 201, Little Rock 72205	224-6294
RD	Herron, John T	2824 Foxcroft Road, #49, Little Rock 72207 (Res.)	227-9484
AN	Hickey, Joseph P	6925 Kingwood Road, Little Rock 72207	666-8865
CD	Hicks, David C	Post Office Box 5600, Little Rock 72215	227-7596
AN	Hill, Howell V.	Post Office Box 55260, Little Rock 72225	663-7166
CDS	Hoffmann, Thomas H	200 Medical Towers Building, Little Rock 72205	224-5666
R	Holder, John C.	4301 West Markham, Slot 556, Little Rock 72201	661-5740
FP	Holland, Jay D.	4601 Woodlawn, Little Rock 72205	664-0769
RD	Hollenberg, Henry G.	#7 Longfellow Circle, Little Rock 72207 (Res.)	663-7767
RD	Hollis, Nicholas T.	8701 Riley Drive, Little Rock 72205 (Res.)	227-8677
FP	Holmes, Harlan C.	9601 Lile Drive, Little Rock 72205	225-6123
RD	Holt, L. Gordon	5700 North Country Club, Little Rock 72207 (Res.)	663-8907
RHU	Holt, Stephen D	10001 Lile Drive, Little Rock 72205	227-8000
R	Holton, Jerry C	500 South University, Suite 101, Little Rock 72205	664-3914
D	Horan, Douglas B.	10001 Lile Drive, Little Rock 72205	227-8000
PTH	Hough, Aubrey J., Jr.	4301 West Markham, Slot 517, Little Rock 72201	661-5170
P	Howard, John G., Jr.	9601 Lile Drive, Suite 790, Little Rock 72205	227-6370
N	Howell, Coburn S., Jr.	8924 Kanis Road, Little Rock 72205	227-4750

Type of Practice	Member's Name	Address	Telephone Number
OBG	Howell, Marsha T.	310 Doctors Park Building, Little Rock 72205	224-4738
D	Hudson, Thomas F., III	601 North University, Little Rock 72205	664-6420
NEP	Hughes, Ronald D	500 South University, Suite 214, Little Rock 72205	664-9881
ORS	Hundley, John M.	412 Cross, Little Rock 72201	375-5338
GS	Hunton, David W	320 Doctors Park Building, Little Rock 72205	227-7200
ORS	Hutson, Harold G	110 Doctors Park Building, Little Rock 72205	227-4150
IM	Jackson, J. Presley	10001 Lile Drive, Little Rock 72205	227-8000
FP	Jackson, M. A.	1304 Wright Avenue, Little Rock 72206	374-7940
D	Jansen, G. Thomas	500 South University, Suite 501, Little Rock 72205	664-4161
PD	Jefferson, Thomas T	Post Office Box 5597, Little Rock 72215	227-6727
PTH	Jimenez, Jorge F	804 Wolfe, Little Rock 72201	370-1307
PTH	Johnson, B. Richard	9600 West 12th, Little Rock 72205	227-2888
CD	Johnson, Ben D	500 South University, Suite 318, Little Rock 72205	664-9535
IM	Johnson, Henry D.	500 South University, Suite 319, Little Rock 72205	664-4171
ORS	Johnson, Philip H.	Post Office Box 5270, Little Rock 72215	224-6900
R	Johnston, Dale E.	500 South University, Suite 108, Little Rock 72205	664-3914
A	Johnston, Thomas G	P. O. Box 5000, Little Rock 72205	664-3904
AN	Jones, Garry L.	500 South University, Suite 720, Little Rock 72205	664-8489
GS	Jones, John C.	500 South University, Suite 301, Little Rock 72205	664-4747
ORS	Jones, Kenneth G.	Post Office Box 5270, Little Rock 72215	224-6900
GS	Jones, Robert D.	500 South University, Suite 301, Little Rock 72205	664-4747
D	Jones, William N.	500 South University, Suite 708, Little Rock 72205	664-0418
NS	Jordan, F. Richard	520 West Pershing, Suite A, North Little Rock 72114	753-5340
NS	Jouett, W. Ray	750 Medical Towers Building, Little Rock 72205	225-0880
R	Joyce, John W.	1100 Medical Towers Building, Little Rock 72205	227-5240
RD	Junkin, Ruth H.	1012 Holden, Newport 72112 (Res.)	523-3238
AN	Kaemmerling, Raymond E.	500 South University, Suite 720, Little Rock 72205	664-8489
IM	Kahn, Alfred, Jr.	1300 West 6th, Little Rock 72201	374-5588
CD	Kane, James J.	#5 St. Vincent Circle, Little Rock 72205	664-5860
PD	Keathley, Susan A.	Post Office Box 5597, Little Rock 72215	227-6727
D	Keeran, Michael G.	500 South University, Little Rock 72205	664-4161
OBG	Keller, Al W.	1924 Fendley Drive, North Little Rock 72114	758-3774
FP	Kennedy, Charles H.	3115 JFK Boulevard, North Little Rock 72116	753-9464
PD	Kennedy, H. Frazier	500 South University, Suite 200, Little Rock 72205	664-4117
	King, G. Errol	Kingston St. Vincent, West Indies	
R	King, Michael T.	1100 Medical Towers Building, Little Rock 72205	227-5240
A	Kittler, Fred J.	Post Office Box 5675, Little Rock 72215	227-5210
CD	Kizziar, J. C.	10001 Lile Drive, Little Rock 72205	227-8000
R	Knox, Michael F.	500 South University, Little Rock 72205	664-3914
P	Koehler, Thomas R.	4313 West Markham, Little Rock 72205	664-4500
END	Kohler, Peter O.	4301 West Markham, Slot 640, Little Rock 72201	661-5160
RD	Kolb, Agnes C.	30 Lenon Drive, Little Rock 72207 (Res.)	663-7930
P	Kolb, W. Payton	230 Medical Towers Building, Little Rock 72205	225-0887
RHU	Kovaleski, Thomas M.	10001 Lile Drive, Little Rock 72205	227-8000
RD	Kozberg, Oscar	4 Windsor Court, Little Rock 72212 (Res.)	225-7709
GYN	Kreth, Kay M.	417 North University, Little Rock 72205	663-9441
P	Krulin, Gregory S.	#1 St. Vincent Circle, #340, Little Rock 72205	664-1060
CD	Kumpuris, Andrew G.	415 North University, Little Rock 72205	664-6841
GS	Kumpuris, Frank G.	415 North University, Little Rock 72205	664-1521
OBG	Kwee, James J.	#1 Lile Court, Little Rock 72205	224-5500
OTO	Kyser, James F.	900 Medical Towers Building, Little Rock 72205	227-8501
OPH	Landers, James H.	500 South University, Suite 519, Little Rock 72205	664-1104
R	Landgren, Robert C.	CARTI, Markham at University, Little Rock 72205	664-8573
R	Lane, John W.	1100 Medical Towers Building, Little Rock 72205	227-2180
GS	Lang, Nicholas P.	4301 West Markham, Slot 520, Little Rock 72201	661-6186
ORS	Lange, Thomas A.	4301 West Markham, Slot 531, Little Rock 72201	661-5251
R	Langston, Harold D.	Post Office Box 56202, Little Rock 72215	664-8573
FP	Laurenzana, Donald A.	3423 Pike, North Little Rock 72118	753-3661
RD	Lawson, Mason G.	200 Ridgeway, Little Rock 72205 (Res.)	663-4834
PS	Lehmberg, Robert W.	11219 Hermitage Road, #200, Little Rock 72211	227-6063
EM	Leibovich, Marvin	9600 West 12th, Emer. Dept., Little Rock 72205	227-2300
OTO	Leipzig, Bruce	8 Portia Drive, Little Rock 72212	661-5612
RHU	Leonard, Donald G.	#1 St. Vincent Circle, #150, Little Rock 72205	664-2466
FP	Leonard, Garnett J.	3115 JFK Boulevard, North Little Rock 72116	753-9499
OBG	Leou, Frank J.	1070 Medical Towers Building, Little Rock 72205	224-1080
PM	Lepore, Diane G.	1120 Marshall Street, Suite 515, Little Rock 72202	375-1618
PD	Levin, Frederick R.	500 South University, Suite 300, Little Rock 72205	664-4044
CD	Lewis, W. Sexton	700 Medical Towers Building, Little Rock 72205	227-4434
R	Lile, Henry A.	1100 Medical Towers Building, Little Rock 72205	227-5240
GS	Lincoln, Ben M.	5326 West Markham, Suite 18, Little Rock 72205	664-6705
ORS	Lipke, Jay M.	601 North University, Little Rock 72205	666-0144
CDS	Loebl, Edward C.	250 Medical Towers Building, Little Rock 72205	227-4787
U	Logan, Charles W.	500 South University, Suite 512, Little Rock 72205	664-4364
IM	Love, Tommy L., Jr.	#1 St. Vincent Circle, #350, Little Rock 72205	664-5932
PD	Lowe, Betty A.	804 Wolfe, Little Rock 72201	370-1401
N	Lucy, Dennis D., Jr.	4301 West Markham, Slot 500, Little Rock 72201	661-5135
GS	Ludwig, Frank R.	406 West Pershing, North Little Rock 72114	758-1620
GS	Lyons, Virgle E., Jr.	500 South University, Suite 421, Little Rock 72205	664-2434
PTH	Malak, F. A.	Post Office Box 5274, Little Rock 72215	227-5936
FP	Mallory, George L., Jr.	4511 Lynch Drive, North Little Rock 72117	945-9271
AN	Mallory, John A.	9601 Lile Drive, Plaza A, Little Rock 72205	227-9114
FP	Mann, R. Jerry	6924 Geyer Springs Road, Little Rock 72209	562-1463
PTH	Markland, Gary S.	9601 Interstate 630, Exit 7, Little Rock 72205	227-2888
OBG	Marks, Stephen R.	2000 Fendley Drive, North Little Rock 72114	758-9251
CD	Martin, Richard H.	9600 Lile Drive, #360, Little Rock 72205	224-6525
NS	Mason, J. Zachary	750 Medical Towers Building, Little Rock 72205	225-0880
PUD	Mason, William L.	610 Freeway Medical Towers, Little Rock 72204	661-9393
RD	Massey, C. Garnett	1700 White Road, Little Rock 72211 (Res.)	225-6775
A	Matthews, Joe W.	Post Office Box 5675, Little Rock 72215	227-5210
P	Matthews, Robert R.	4301 West Markham, Slot 568, Little Rock 72201	661-5903
NS	Mawk, John R.	804 Wolfe, Little Rock 72201	370-1448
R	McAdoo, Hosea W., Jr.	1100 Medical Towers Building, Little Rock 72205	227-5240
ORS	McCarthy, Richard E.	804 Wolfe, Little Rock 72201	370-1467
PTH	McConnell, John D.	500 South University, Suite 411, Little Rock 72205	664-2593
GS	McCracken, John D.	970 Medical Towers Building, Little Rock 72205	227-8180
FP	McCrary, George A.	#2 Crestview Plaza, Jacksonville 72076	982-4551
R	McDonald, James E.	500 South University, Suite 108, Little Rock 72205	664-3914
FP	McGowan, Robert J., Jr.	424 North University, Little Rock 72205	664-4810
OTO	McGrew, Robert N.	1200 Medical Towers Building, Little Rock 72205	227-5050
ORS	McKenzie, Charles N.	802 North University, Little Rock 72205	666-0251
OBG	McKnight, C. Allen	800 Medical Towers Building, Little Rock 72205	227-5885
RD	McMillin, F. Lamar, Sr.	337 Crystal Court, Little Rock 72205 (Res.)	663-3783
OPH	McNair, James R.	6911 Geyer Springs Road, Little Rock 72209	562-5637
CD	Meacham, Donald F.	650 Shackleford, #241, Little Rock 72211	224-9001
AN	Means, Paul N.	10825 Financial Center Parkway, #201, Little Rock 72211	227-7590
IM	Metrailer, James A.	1100 North University, Little Rock 72207	664-1540
N	Miles, David A.	500 South University, Suite 812, Little Rock 72205	664-3018

Type of Practice	Member's Name	Address	Telephone Number
RD	Millard, Roy I.	8101 Cantrell, #407, Little Rock 72207 (Res.)	224-9145
NEP	Miller, C Lindsey	350 Medical Towers Building, Little Rock 72205	224-2141
FP	Miller, Forrest B , Jr	4202 South University, Little Rock 72204	562-4838
OBG	Miller, Frank C.	4301 West Markham, Slot 518, Little Rock 72201	661-5387
IM	Miller, Raymond P., Sr	5918 Lee, Little Rock 72205	664-2500
OTO	Milner, E. L.	500 South University, Suite 208, Little Rock 72205	664-4318
ADM	Mitchell, George K.	Post Office Box 2181, Little Rock 72203	378-2133
PDS	Mollitt, Daniel L.	804 Wolfe, Little Rock 72201	370-1450
N	Money, Wandal D	2003 Fendley Drive, North Little Rock 72114	753-5462
D	Moore, Burton A.	500 South University, Little Rock 72205	664-4161
U	Moore, J. Malcolm	500 South University, Suite 512, Little Rock 72205	664-4364
GS	Moore, Rex N.	Post Office Box 459, Jacksonville 72076	982-2141
IM	Moore, Robert B.	5918 Lee, Little Rock 72205	664-2500
GYN	Morgan, Frank E.	410 West Pershing, North Little Rock 72114	758-1022
TS	Morris, W Dale	8500 West Markham, Suite 103, Little Rock 72205	224-1950
GER	Morris, Woodbridge E.	310 Ridgeway, Little Rock 72205 (Res)	663-6551
FP	Morrison, Doyle H	3807 McCain Park Drive, Suite 106, North Little Rock 72116	758-8981
R	Morrison, James R	500 South University, Suite 511, Little Rock 72205	664-3914
IM	Morse, James C	500 South University, Suite 402, Little Rock 72205	661-9740
GE	Morton, William J	10001 Lile Drive, Little Rock 72205	227-8000
ORS	Mulhollan, James S	#1 St. Vincent Circle, #410, Little Rock 72205	664-6334
GP	Murphy, James E., Jr.	520 West Pershing, North Little Rock 72114	758-1640
P	Murphy, Randolph	708 West Second, Little Rock 72201	371-2214
GP	Napper, George S	513 Main, North Little Rock 72114	375-2433
GS	Nash, John C	9600 West 12th, #330, Little Rock 72205	227-6363
R	Nelson, Alvah J., III	500 South University, Little Rock 72205	664-8573
ORS	Nelson, Carl L., Jr	4301 West Markham, Slot 531, Little Rock 72201	661-5505
	Nelson, Robert D.	York, Pennsylvania	
OS	Nestrud, Richard M.	105 Medical Towers Building, Little Rock 72205	225-8821
R	Newbern, David H	500 South University, Little Rock 72205	664-3914
RD	Nisbett, James M.	517 East 7th, Little Rock 72202 (Res.)	375-2252
ORS	Nix, Richard A.	Post Office Box 5270, Little Rock 72215	224-6900
FP	Nolen, James E.	Post Office Box 459, Jacksonville 72076	982-2141
R	Norton, George A.	500 South University, Suite 108, Little Rock 72205	664-3914
R	Norton, Joseph A	8570 Cantrell, Little Rock 72207	660-2980
PH	Oates, Gordon P	1700 West 13th, Suite 300, Little Rock 72202	376-4511
IM	O'Brien, Mary E.	10001 Lile Drive, Little Rock 72205	227-8000
R	Oddson, Terrence A	500 South University, Little Rock 72205	664-3914
GP	Ogden, M. D.	4601 Woodlawn, Little Rock 72205	664-0769
P	Oglesby, Walter R	290 Valley Club Circle, Little Rock 72212 (Res.)	224-6426
IM	O'Neal, Walter H.	9601 Interstate 630, Exit 7, Little Rock 72205	227-2672
GS	Osam, Patrick N	320 Doctors Park Building, Little Rock 72205	227-7200
GS	Ozment, Kerry L.	5810 West 10th, Suite 710, Little Rock 72204	663-4020
ADM	Padberg, Frank T	55 East Erie, Chicago, Illinois 60611	312-664-4050
HEM	Padilla, Fernando	#1 St. Vincent Circle, #110, Little Rock 72205	664-6600
AN	Panuska, Jerry	9601 Lile Drive, Plaza A, Little Rock 72205	227-9114
OT	Pappas, James J	1200 Medical Towers Building, Little Rock 72205	227-5050
OPH	Parker, J. Mayne	500 South University, Suite 119, Little Rock 72205	666-9632
GS	Parnell, Clifton L., III	8500 West Markham, Suite 103, Little Rock 72205	224-1950
PD	Paulus, Thomas E.	500 South University, Suite 302, Little Rock 72205	664-4044
ORS	Peeples, R Earl	110 Doctors Park Building, Little Rock 72205	227-4150
CHP	Peters, John E.	4301 West Markham, Slot 589, Little Rock 72201	661-5800
END	Peters, Phillip J.	10001 Lile Drive, Little Rock 72205	227-8000
OPH	Petursson, Gissur J.	4301 West Markham, Slot 523, Little Rock 72201	661-5150
RD	Phillips, Bert L.	4525 Rosemont Drive, North Little Rock 72116 (Res)	753-6057
OBG	Phillips, Charles E.	800 Medical Towers Building, Little Rock 72205	227-5885
PUD	Phillips, James R	890 Medical Towers Building, Little Rock 72205	224-0110
GS	Phipps, Woodrow E.	Post Office Box 13, North Little Rock 72115	374-4821
GS	Pike, John D.	500 South University, Little Rock 72205	664-4321
IM	Pilcher, Michael T.	2011 Fendley Drive, North Little Rock 72114	771-0300
FP	Pledger, Norman R	3629 McCain Boulevard, North Little Rock 72116	758-2644
AN	Pollard, Arlee E.	500 South University, Little Rock 72205	664-4533
PS	Pope, Norton A.	850 Medical Towers Building, Little Rock 72205	227-6464
ORS	Porter, Robert A., Jr.	1100 North University, #30, Little Rock 72207	664-7710
OTO	Potts, Jerry L.	3629 McCain Boulevard, #230, North Little Rock 72116	753-8444
GE	Power, Robert C	409 North University, Little Rock 72205	664-6980
NM	Prather, Jerry L.	500 South University, Suite 101, Little Rock 72205	664-3914
CD	Price, Ben O.	500 South University, Little Rock 72205	664-9535
IM	Pringos, Andrew A.	501 Woodlane, Little Rock 72201	372-5000, Ext. 392
RD	Proctor, Clark B	63 Sherrill Heights, Little Rock 72202 (Res.)	663-5269
FP	Purdy, Harold D.	6924 Geyer Springs Road, Little Rock 72209	562-1463
IM	Pyle, Hoyte R., Jr.	5918 Lee, Little Rock 72205	664-2500
OBS	Quirk, J Gerald, Jr	4301 West Markham, Slot 518, Little Rock 72201	661-5921
N	Ragsdill, Mary L.	2003 Fendley Drive, North Little Rock 72114	753-5462
CDS	Ransom, John M	330 Medical Towers Building, Little Rock 72205	224-1508
D	Raque, Carl J.	500 South University, Suite 704, Little Rock 72205	666-5451
IM	Rasch, James R.	10001 Lile Drive, Little Rock 72205	227-8000
TS	Read, Raymond C.	300 East Roosevelt Road, Little Rock 72206	372-8361
PUD	Rector, Nancy F	890 Medical Towers Building, Little Rock 72205	224-0110
NS	Reding, David L.	750 Medical Towers Building, Little Rock 72205	225-0880
U	Redman, John F.	4301 West Markham, Slot 540, Little Rock 72201	661-5240
OBG	Reed, Ewing C., Jr.	300 Doctors Park Building, Little Rock 72205	227-6377
P	Reese, William G	4301 West Markham, Slot 506, Little Rock 72201	661-5266
RD	Regnier, George G.	5123 Crestwood, Little Rock 72207 (Res.)	666-2776
**R	Rhodes, David F.	4301 West Markham, Slot 556, Little Rock 72201	661-5740
U	Rice, Peyton E	2000 Fendley Drive, #205, North Little Rock 72114	753-4593
CD	Richards, Mary K	5810 West 10th, Little Rock 72204	666-5000
FP	Riddle, John F., Jr	8824 Chicot Road, Little Rock 72209	562-8600
R	Ridout, Robert G	Box 55211, Hillcrest Station, Little Rock 72204 (Res.)	227-4857
FP	Riegler, N W., Jr	1024 Scott, Little Rock 72202	375-3326
RD	Riggs, Orval E.	1300 North Hughes, Little Rock 72207 (Res.)	666-1315
FP	Riley, William H	4202 South University, Little Rock 72204	562-4838
CHP	Ringdahl, Irving C.	804 Wolfe, Little Rock 72201	370-1359
OPH	Roberson, Michael C.	623 Woodlane, Little Rock 72201	374-6491
GP	Robinson, Paul F	Post Office Box 66, Redfield 72132	397-2261
FP	Rodgers, Charles H	4202 South University, Little Rock 72204	562-4838
RD	Rodgers, Clyde D.	5223 Hawthorne, Little Rock 72207 (Res.)	663-7502
ORS	Rooney, Thomas P	3629 McCain Boulevard, North Little Rock 72116	758-2046
RD	Rosenbaum, Carl A.	101 Cambridge Place, Little Rock 72207 (Res.)	225-8071
RD	Ross, Robert W.	123 Normandy Road, Little Rock 72207 (Res.)	663-2052
ONC	Ross, S. William	#1 St. Vincent Circle, #110, Little Rock 72205	664-6600
RD	Rothert, Frances C.	Benedictine Manor, Hot Springs 71914 (Res.)	623-1571
OTO	Rounsaville, Harry L.	500 South University, Suite 321, Little Rock 72205	664-9082
OPH	Roy, F. Hampton	1000 Medical Towers Building, Little Rock 72205	227-6980
OTO	Ruggles, Dwayne L.	520 West 26th, North Little Rock 72114	758-6560
ORS	Runyan, William A.	110 Doctors Park Building, Little Rock 72205	227-4150
GS	Rutledge, William L.	5810 West 10th, Little Rock 72201	661-1462

Type of Practice	Member's Name	Address	Telephone Number
ORS	Saer, Edward H., III	#1 St Vincent Circle, #210, Little Rock 72205	661-0350
PH	Saltzman, Ben N	4815 West Markham, Little Rock 72205	661-2111
TS	Satterfield, John V	500 South University, Little Rock 72205	664-6050
ORS	Schock, Charles C.	Post Office Box 5270, Little Rock 72215	224-6900
FP	Schratz, Bruce E.	1801 Maple, North Little Rock 72114	758-1002
OPH	Schroeder, George T.	260 Doctors Park Building, Little Rock 72205	224-4484
IM	Schultz, John C.	10001 Lile Drive, Little Rock 72205	227-8000
GS	Schwander, Howard	320 Doctors Park Building, Little Rock 72205	227-7200
#	Schwarz, W. J.	Little Rock	
OPH	Scruggs, Jan W	312 Pershing, North Little Rock 72114	758-7627
ORS	Seale, Karen S.	4301 West Markham, Slot 531, Little Rock 72201	661-5595
R	Seibert, Joanna J.	804 Wolfe, Little Rock 72201	370-1100
ORS	Selakovich, Walter G	500 South University, Little Rock 72205	666-2824
FP	Sessions, Leslie H	1901 Hillsborough, Little Rock 72212	NF
P	Shannon, Robert F	4313 West Markham, Little Rock 72205	664-4500, Ext 401
OPH	Shock, John P	4301 West Markham, Slot 523, Little Rock 72201	661-5150
FP	Short, Harold K.	#2 Crestview Plaza, Jacksonville 72076	982-4551
IM	Silvoso, Gerald R.	10001 Lile Drive, Little Rock 72205	227-8000
OBG	Simmons, Ormarr W	#1 Lile Court, Little Rock 72205	224-5500
IM	Simpson, N Henry	941 Donaghey Building, Little Rock 72201	375-2801
P	Sims, James M.	3629 McCain Boulevard, #220, North Little Rock 72116	758-9993
PD	Sims, Neil H	4301 West Markham, Slot 592, Little Rock 72201	661-5320
PTH	Singleton, L. Gene	1120 Medical Towers Building, Little Rock 72205	227-2888
GS	Sipes, Frank M.	1100 North University, Suite 231, Little Rock 72207	664-4596
ORS	Slater, John G., Jr.	1100 North University, Suite 30, Little Rock 72207	664-7710
PTH	Slaven, John E.	1120 Medical Towers Building, Little Rock 72205	225-7711
R	Slayden, John E.	1100 Medical Towers Building, Little Rock 72205	227-5240
AN	Sloan, Fay M.	9601 Lile Drive, Plaza A, Little Rock 72205	227-9114
GYN	Sloan, James M.	500 South University, Suite 413, Little Rock 72205	664-2277
GE	Smart, Douglas F	409 North University, Little Rock 72205	664-6980
P	Smith, Aubrey C.	#1 St Vincent Circle, #260, Little Rock 72205	664-0001
CD	Smith, David E.	360 Doctors Park Building, Little Rock 72205	224-6525
OBG	Smith, Douglas B	#1 Lile Court, #200, Little Rock 72205	224-5500
P	Smith, G. Richard, Jr.	4301 West Markham, Slot 554, Little Rock 72201	661-5600
OPH	Smith, James L.	623 Woodlane, Little Rock 72201	374-6491
OPH	Smith, Joe E	7107 West 12th, Little Rock 72204	666-8627
FP	Smith, John McCollough	4000 Woodlawn, Little Rock 72205	666-6570
GYN	Smith, Mose, III	5326 West Markham, Little Rock 72205	664-1527
A	Smith, Purcell, Jr	Post Office Box 5675, Little Rock 72215	227-5210
GE	Smith, Thomas J.	409 North University, Little Rock 72205	664-6980
PD	Smith, Thomas W	500 South University, Suite 200, Little Rock 72205	664-4117
OTO	Smith, Tom	300 Medical Towers Building, Little Rock 72205	227-4863
R	Snyder, Linda M	1100 Medical Towers Building, Little Rock 72205	227-5240
OTO	Snyderman, Nancy L	4301 West Markham, Slot 538, Little Rock 72201	661-5612
FP	Somers, A. Jack	330 Doctors Park Building, Little Rock 72205	227-6363
ORS	Sorrells, R Barry	Post Office Box 5270, Little Rock 72215	224-6900
PDC	Sotomora, Ricardo F	105 Medical Towers Building, Little Rock 72205	225-8821
RD	Spitzberg, Irving J	307 North Cedar, Little Rock 72205 (Res.)	663-6877
EM	Spurgeon, P Stanley	4301 West Markham, Slot 584, Little Rock 72201	661-5515
PUD	Squire, Arthur E.	10001 Lile Drive, Little Rock 72205	227-8000
IM	Stanley, Joe P.	Pike Plaza Center, North Little Rock 72114	758-9823
ORS	Steele, William L.	1100 North University, #30, Little Rock 72207	664-7710
IM	Sternberg, Jack J.	1000 North University, Suite 100, Little Rock 72207	661-0060
IM	Stockley, Susan M	1100 North University, Suite 125, Little Rock 72207	664-1540
END	Stonesifer, Larry D.	8500 West Markham, Slot 314, Little Rock 72205	225-9654
FP	Storeygard, Alan R	Post Office Box 459, Jacksonville 72076	982-2141
FP	Stotts, John R	Post Office Box 7219, Little Rock 72217	663-9415
CD	Stout, Kimber M	2000 Fendley Drive, #102, North Little Rock 72114	758-5133
FP	Strauss, Alvin W., Jr	1026 Donaghey Building, Little Rock 72201	372-1828
IM	Strauss, Mark A.	1026 Donaghey Building, Little Rock 72201	372-1828
PD	Stroope, George F	516 West Pershing, North Little Rock 72114	758-1530
OBG	Struble, R Harlan, Jr.	270 Medical Towers Building, Little Rock 72205	224-6300
PS	Stuckey, James G., Jr	500 South University, Suite 601, Little Rock 72205	664-4383
GYN	Studdard, James D.	12361 Hinson Road, Little Rock 72212	225-9905
U	Sulieman, J. Samir	518 West 26th, North Little Rock 72114	758-6111
PTH	Sullivan, Charles D	1120 Medical Towers Building, Little Rock 72205	227-2888
N	Sullivan, Jan R	8924 Kanis Road, Little Rock 72205	227-4750
P	Sundermann, Richard H	V A. Hospital, North Little Rock 72114	661-1202, Ext. 1340
GP	Sung, Michael Y	Post Office Box 18159, Little Rock 72219	455-1331
RD	Swindoll, Bryant S	3415 North Hills Blvd., North Little Rock 72116 (Res.)	753-3029
OBG	Tanner, James A.	#1 Lile Court, Suite 200, Little Rock 72205	224-5500
IM	Taylor, Eugene H	10001 Lile Drive, Little Rock 72205	227-8000
CRS	Tedford, John G	500 South University, Suite 315, Little Rock 72205	664-8466
PD	Teeter, John A	501 North University, Little Rock 72205	661-1917
GE	Texter, E Clinton, Jr.	4301 West Markham, Slot 567, Little Rock 72201	661-5177
OPH	Thomas, A Henry	500 South University, Little Rock 72205	664-8445
ORS	Thomas, Jerry L.	#1 St Vincent Circle, # 210, Little Rock 72205	661-0350
GS	Thomas, Peter O	1310 Cantrell Road, Little Rock 72201	374-5703
CD	Thompson, A. James	#5 St Vincent Circle, Little Rock 72205	664-5860
OTO	Thompson, Albert R	500 South University, Suite 206, Little Rock 72205	664-4381
AN	Thompson, Dola S	4301 West Markham, Slot 515, Little Rock 72201	661-6119
IM	Thompson, John R	11215 Hermitage Road, #100, Little Rock 72211	225-2661
ORS	Thompson, S. Berry, Jr.	1100 North University, Suite 30, Little Rock 72207	664-7710
ORS	Thompson, Samuel B.	1100 North University, Suite 30, Little Rock 72207	664-7710
ADM	Thorn, G. Max	#1 St Vincent Circle, Little Rock 72205	660-3591
OBG	Thrower, Rufus, Jr	1601 South University, Little Rock 72204	663-6316
FP	Tilley, Steve B	Post Office Box 7219, Little Rock 72217	663-9415
R	Tirman, Robert M	4301 West Markham, Slot 556, Little Rock 72201	661-5740
ADM	Towbin, Eugene J.	4300 West 7th, Little Rock 72205	660-2092
FP	Tracy, Phillip A.	Post Office Box 459, Jacksonville 72076	982-2141
HEM	Tranum, Bill L.	500 South University, Suite 401, Little Rock 72205	664-3008
GP	Trussell, Thomas W	5326 West Markham, Suite 12, Little Rock 72205	663-6251
AN	Tseng, Jyi-Ming	9601 Lile Drive, Plaza A, Little Rock 72205	227-9114
FP	Tucker, R. Stephen	424 North University, Little Rock 72205	664-4810
GS	Tucker, W Everett, Jr.	990 Medical Towers Building, Little Rock 72205	227-9080
AN	Vaughter, W Roger	#3 Ken Circle, Little Rock 72207 (Res.)	664-3789
EM	Venable, Robert S	Post Office Box 9608, Little Rock 72219	568-4949
PS	Vogel, Robert G	11219 Hermitage Road, #200, Little Rock 72211	227-6063
FP	Wade, William I., Jr.	424 North University, Little Rock 72205	664-4810
IM	Wagoner, Jack	5918 Lee, Little Rock 72205	664-2500
GS	Walt, James R.	500 South University, Suite 600, Little Rock 72205	664-4146
IM	Ward, Harry P.	4301 West Markham, Slot 541, Little Rock 72201	661-5680
AN	Ward, Joseph P	9601 Lile Drive, Plaza A, Little Rock 72205	227-9114
PD	Warford, Lloyd R	500 South University, Suite 302, Little Rock 72205	664-4044
RD	Warford, Walton R	3737 Lakeshore Drive, North Little Rock 72116 (Res.)	753-4193
CDS	Watkins, Charles J	#5 St. Vincent Circle, #201, Little Rock 72205	666-2894
OPH	Watkins, John G., Jr	230 Doctors Park Building, Little Rock 72205	227-6797

Type of Practice	Member's Name	Address	Telephone Number
OPH	Watkins, John G., III	230 Doctors Park Building, Little Rock 72205	227-6797
IM	Watkins, Larry S	500 South University, Suite 402, Little Rock 72205	661-9740
RD	Watson, C. Robert	30 Edgehill, Little Rock 72207 (Res.)	663-6680
ORS	Weber, Edward R	4301 West Markham, Slot 566, Little Rock 72201	661-5251
FP	Weber, James R	Post Office Box 188, Jacksonville 72076	982-2108
ORS	Weber, Michael J.	3629 McCain Boulevard, #100, North Little Rock 72116	753-1747
CDS	Weiss, John B	330 Medical Towers Building, Little Rock 72205	224-1508
NEP	Wellons, James A	350 Medical Towers Building, Little Rock 72205	224-2141
PS	Wende, Raymond A	11219 Hermitage Road, #200, Little Rock 72211	227-6063
GS	Wenger, Carl E.	330 Doctors Park Building, Little Rock 72205	227-6363
GS	Westbrook, Kent C.	4301 West Markham, Slot 520, Little Rock 72201	661-5987
P	Westerfield, Frank M , Jr	230 Medical Towers Building, Little Rock 72205	225-0777
TS	Westerman, G Richard	804 Wolfe, Little Rock 72201	370-1809
FP	White, Oba B	908 High, Little Rock 72202	374-3609
RD	Wilbur, E. Lloyd	#3 Wingate Drive, Little Rock 72205 (Res)	225-1252
RD	Wilkes, Elbert H.	5801 Hawthorne Road, Little Rock 72207 (Res)	663-7123
OPH	Wilkes, T. David I.	4301 West Markham, Slot 523, Little Rock 72201	661-5150
GE	Williams, Alonzo D	305 Freeway Medical Towers, Little Rock 72204	666-7700
CDS	Williams, C. David	200 Medical Towers Building, Little Rock 72205	224-5666
CDS	Williams, G Doyne	#5 St Vincent Circle, #201, Little Rock 72205	666-2894
NS	Williams, Ronald N	750 Medical Towers Building, Little Rock 72205	225-0880
OTO	Wilson, Frances C.	#1 St. Vincent Circle, #330, Little Rock 72205	663-3716
PUD	Wilson, Frank J., Jr	5810 West 10th, #610, Little Rock 72204	661-9393
CD	Wilson, James W	#1 St Vincent Circle, #440, Little Rock 72205	664-9040
GP	Wilson, Jed D	Post Office Box 7512, Little Rock 72217	663-5413
ORS	Wilson, John L	601 North University, Little Rock 72205	666-0144
OPH	Wilson, R. Sloan	500 South University, Suite 519, Little Rock 72205	664-1104
IM	Wilson, T. Ben	2011 Fendley Drive, North Little Rock 72114	771-0300
IM	Winn, Charles R.	240 Doctors Park Building, Little Rock 72205	227-6659
OBG	Wong, Ting C.	4301 West Markham, Slot 518, Little Rock 72201	661-5921
GYN	Wood, Gary P	500 South University, Suite 314, Little Rock 72205	664-6127
FP	Wortham, Thomas H.	Post Office Box 459, Jacksonville 72076	982-2141
CDS	Wright, Ruel N	#5 St Vincent Circle, #201, Little Rock 72205	666-2894
PTH	Young, Douglas E.	Baptist Medical Center, Path. Dept., Little Rock 72205	771-3264
RD	Zell, Lawrence M.	Star Route, Box 88-B, Tucker 72168 (Res)	842-2216

RANDOLPH COUNTY

FP	Baltz, Albert L.	Route 5, Doctors Medical Bldg., Pocahontas 72455	892-4467
FP	Baltz, M. A	110 West Broadway, Pocahontas 72455	892-3111
FP	Barre, Hal S	Route 5, Doctors Medical Bldg., #200, Pocahontas 72455	892-4497
GP	DeClerk, Thomas B.	Route 5, Doctors Medical Bldg , Pocahontas 72455	892-3344
GS	Hadad, Anibal R.	Post Office Box 725, Pocahontas 72455	892-4406
FP	Holt, Danny B	Route 5, Doctors Medical Bldg , Pocahontas 72455	892-4467
FP	Jansen, Andrew J., III	Route 5, Doctors Medical Bldg , Pocahontas 72455	892-4467
FP	Lombardo, Richard J	Route 4, Box 24-A, Pocahontas 72455	892-4464
FP	Scott, William W	Post Office Box 466, Pocahontas 72455	892-8086
GP	Smith, Norman K	107 Van Bibber, Pocahontas 72455	892-3389

SALINE COUNTY

RD	Ashby, John W	312 Dogwood, Benton 72015 (Res.)	778-2470
R	Ashby, Robert M.	815 North East, Benton 72015	778-6555
PD	Atkins, Mary J.	825 North Main, Benton 72015	778-0421
GS	Baber, Ouin M.	105 McNeil, Benton 72015	778-7435
OM	Bethel, James C	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext. 300
OBG	Caldwell, David L.	910 North East, Benton 72015	778-0426
ORS	Cash, Ralph D	105 McNeil, Benton 72015	778-1388
GP	Coker, S Dale	Benton Services Center, Bldg. 6, Benton 72015	371-1906
FP	Cornwell, Samuel L.	Route 3, Box 225, Benton 72015	371-1906
OBG	Council, Robert A., Jr.	910 North East, Benton 72015	778-0426
ORS	Duncan, J Shelby	105 McNeil, Benton 72015	778-1388
OPH	Gardner, Dan R.	Post Office Box 340, Benton 72015	778-8843
FP	Hermann, Ernest J , Jr	Benton Services Center, Benton 72015	778-1111
IM	Hill, Edward B.	1200 North Main, Benton 72015	778-5740
GP	Hogue, F Paul	302 West South, Benton 72015	778-4511
FP	Hood, C Ted	Post Office Box 483, Bryant 72022	847-0082
GP	Izard, Ralph S , Jr	101 Northwest 3rd, Suite D, Bryant 72022	847-0289
FP	Johnston, Greg	205 Carpenter, Benton 72015	778-8264
FP	Kirk, Marvin N., Jr.	205 Carpenter, Benton 72015	778-8264
GP	Martindale, J. L	302 West South, Benton 72015	778-4511
RD	Mizell, Walter S.	1415 Pinewood, Benton 72015 (Res)	778-6522
AN	Porter, Jim C	Post Office Box D, Benton 72015	776-0052
OM	Ramsay, Rex C., Jr.	Post Office Box 300, Bauxite 72011	778-3644
FP	Stewart, David L.	205 Carpenter, Benton 72015	778-8264
FP	Taggart, Sam D	Post Office Box 969, Benton 72015	778-0934
OBG	Thibault, Frank G , Jr	910 North East, Benton 72015	778-0426
IM	Thomas, Bill R.	1200 North Main, Benton 72015	778-5740
PD	Thompson, Steven M	1200 North Main, Benton 72015	778-5002
RD	Thorn, H. B., Jr	Route 6, Box 1200, Benton 72015 (Res)	778-4858
GP	Tilley, Roger L	302 West South, Benton 72015	778-4511
GS	Viner, Donald L.	105 McNeil, Benton 72015	778-7435
FP	Wright, John D	321 Short, Benton 72015	776-0603

SCOTT COUNTY

GS	Ahmed, S A	Post Office Box 547, Waldron 72958	637-3135

SEBASTIAN COUNTY

R	Albers, David G	Post Office Box 1827, Fort Smith 72902	782-5035
ORS	Alberty, Joe P	7303 Rogers Avenue, Suite 418, Fort Smith 72903	452-3500
EM	Alexander, R Kent	1311 South "I", Fort Smith 72901	441-5011
GS	Anderson, Paul M.	1501 South Waldron, Suite 201, Fort Smith 72903	452-9316
U	Armstrong, Sinclair W , Jr	720 Lexington, Fort Smith 72901	785-2604
OBG	Atkins, Jimmie G	1500 Dodson, Fort Smith 72901	782-2071
GP	Bailey, Charles W	Post Office Box 426, Greenwood 72936	996-4111
P	Baker, Max A	2112 South Greenwood, Fort Smith 72901	785-2361
IM	Barker, Robert C , Jr	1500 Dodson, Fort Smith 72901	782-2071
HEM	Barnes, L. Ford	Post Office Box 3528, Fort Smith 72913	452-2077
AN	Berryhill, Richard E.	216-A North Greenwood, Fort Smith 72901	783-1497
OBG	Berumen, Mike	Post Office Box 3528, Fort Smith 72913	452-2077
GE	Bordeaux, Ronald A	Post Office Box 3528, Fort Smith 72913	452-2077
D	Bradford, A. C.	Post Office Box 3528, Fort Smith 72913	452-2077
P	Bradley, Joe F.	2112 South Greenwood, Fort Smith 72901	785-2361
R	Broadwater, John R	1500 Dodson, Fort Smith 72901	782-2071
ORS	Brown, Byron L.	100 North 16th, Fort Smith 72901	783-3604
RD	Brown, James A.	6810 South "T", Fort Smith 72903 (Res)	452-1231

Type of Practice	Member's Name	Address	Telephone Number
R	Brown, Richard N.	1501 South Waldron, Suite 109, Fort Smith 72903	452-9416
ORS	Bule, James H	1500 Dodson, Fort Smith 72901	782-2071
FP	Busby, J David	100 South 14th, Fort Smith 72901	785-2431
PD	Cabell, Ben B	312 South 16th, Fort Smith 72901	782-7921
R	Cassady, Calvin R	1500 Dodson, Fort Smith 72901	782-2071
P	Chambers, A Pat	1500 Dodson, Fort Smith 72901	782-2071
RD	Chamblin, Don W	2500 Fresno Place, Fort Smith 72901 (Res)	646-5391
AN	Chester, Robert L.	1500 Dodson, Fort Smith 72901	782-2071
AN	Coffman, Edwin L.	1500 Dodson, Fort Smith 72901	782-2071
NEP	Coleman, Michael D	1500 Dodson, Fort Smith 72901	782-2071
CRS	Crigler, Ralph E.	1500 Dodson, Fort Smith 72901	782-2071
R	Crow, Neil E., Jr.	1500 Dodson, Fort Smith 72901	782-2071
R	Crow, Neil E., Sr	1500 Dodson, Fort Smith 72901	782-2071
R	Culp, William C.	1501 South Waldron, Suite 109, Fort Smith 72903	452-9416
RD	Cunningham, Charles S	212 Mockingbird Lane, Poteau, Oklahoma 74953 (Res)	918-647-4904
PTH	Davenport, O Leo	923 Lexington, Fort Smith 72901	785-1447
CD	Deaton, John M.	1500 Dodson, Fort Smith 72901	782-2071
PD	deMiranda, Fred C.	1501 South Waldron, Suite 202, Fort Smith 72903	452-8311
RHU	Deneke, James S	1500 Dodson, Fort Smith 72901	782-2071
P	Desrochers, Paul E.	7302 Rogers, Fort Smith 72903	452-9115
P	Dorzab, Joe H	1500 Dodson, Fort Smith 72901	782-2071, Ext. 356
FP	Dudding, William F	3104 Executive Park, Suite 103, Fort Smith 72903	452-9012
	Dulligan, Michael P.	Baton Rouge, Louisiana	
FP	Durmon, Beuford T.	7303 Rogers, Suite 301, Fort Smith 72903	452-4552
IM	Edmondson, Steven A.	320 North Greenwood, Fort Smith 72901	782-4470
OBG	Ellis, Homer G.	Post Office Box 3507, Fort Smith 72913	785-2411
R	Erickson, Clark A	1500 Dodson, Fort Smith 72901	782-2071
OPH	Faier, S Z.	1500 Dodson, Fort Smith 72901	782-2071
HEM	Fecher, Dennis R.	1500 Dodson, Fort Smith 72901	782-2071
U	Feder, Frederick P , Jr	520 Lexington, Fort Smith 72901	782-7261
OBG	Feezell, Randall E.	408 South 16th, Fort Smith 72901	785-2411
FP	Feild, T A , III	3600 North "O", Fort Smith 72904	783-5158
OPH	Felker, Gary V.	3000 Rogers, Fort Smith 72901	782-8892
AN	Fisher, Robert D.	1500 Dodson, Fort Smith 72901	782-2071
PD	Floyd, Charles H	617 South 16th, Fort Smith 72901	783-3165
U	Francis, Darryl R., II	720 Lexington, Fort Smith 72901	785-5520
OTO	Gedosh, Edgar A	600 South 16th, Fort Smith 72901	782-6022
R	Gill, James A	1500 Dodson, Fort Smith 72901	782-2071
CD	Gilliland, J. Campbell	1500 Dodson, Fort Smith 72901	782-2071
PTH	Girkin, R Gene	923 Lexington, Fort Smith 72901	785-1447
IM	Glassell, Edwin C	1500 Dodson, Fort Smith 72901	782-2071
OBG	Glover, D Bruce	Post Office Box 3507, Fort Smith 72913	785-2411
PS	Goodman, R. Cole	1500 Dodson, Fort Smith 72901	782-2071
AN	Goodman, Raymond C., Sr	1500 Dodson, Fort Smith 72901	782-2071
EM	Graves, Stephen C.	7301 Rogers, Fort Smith 72903	452-5100
N	Griggs, William L., III	1500 Dodson, Fort Smith 72901	782-2071
AN	Grimes, Alfred H.	1500 Dodson, Fort Smith 72901	782-2071
ORS	Hathcock, Alfred B	1500 Dodson, Fort Smith 72901	782-2071
AN	Herren, Adrian L.	216-A North Greenwood, Fort Smith 72901	783-1497
U	Hewett, Archie L	600 South 14th, Fort Smith 72901	785-2604
IM	Hinkle, Richard A , Jr.	1501 South Waldron, Suite 100, Fort Smith 72903	452-8753
OBG	Hoffman, John D.	Post Office Box 3528, Fort Smith 72913	452-2077
GS	Hoge, Marlin B	1501 South Waldron, Suite 201, Fort Smith 72903	452-9316
CD	Holman, William A.	Post Office Box 3528, Fort Smith 72913	452-2077
GS	Holmes, Williams C., Jr.	Post Office Box 3528, Fort Smith 72913	452-2077
ADM	Hornberger, Evans Z., Jr	1311 South "I", Fort Smith 72901	441-5440
A	Howell, James T	1420 South "I", Fort Smith 72901	782-2983
OPH	Hughes, Robert P , Jr	3000 Rogers, Fort Smith 72901	782-8894
R	Huskison, William T.	1501 South Waldron, Suite 109, Fort Smith 72903	452-9416
OBG	Hyde, Marshall L.	Post Office Box 3507, Fort Smith 72913	785-2411
FP	Ingram, Ralph N	1120 Lexington, Fort Smith 72901	785-2655
ORS	Irwin, Peter J	1500 Dodson, Fort Smith 72901	782-2071
GS	Janes, Robert H., Jr	1500 Dodson, Fort Smith 72901	782-2071
	Jones, Gilbert N , III	Baltimore, Maryland	
RD	Jones, W Duane	5610 South Enid, Fort Smith 72903 (Res)	452-0484
GS	Kelly, Thomas C.	Post Office Box 3528, Fort Smith 72913	452-2077
GYN	Kelsey, J. F.	Post Office Box 3507, Fort Smith 72913	785-2411
RD	Kennedy, Virgil N	5417 Grand, Fort Smith 72904 (Res.)	452-3351
IM	Kientz, John L. B	1500 Dodson, Fort Smith 72901	782-2071
CD	Klopfenstein, Keith	1500 Dodson, Fort Smith 72901	782-2071
ORS	Knight, William E.	1500 Dodson, Fort Smith 72901	782-2071
END	Kocher, David B	Post Office Box 3528, Fort Smith 72913	452-2077
GP	Koenig, A Samuel, III	2420 Rogers, Fort Smith 72901	785-2431
RD	Koenig, Albert S , Jr	2122 South "W", Fort Smith 72901 (Res.)	783-7233
OBG	Kradel, R Paul	Post Office Box 3528, Fort Smith 72913	452-2077
FP	Kramer, Ralph G	603 Lexington, Fort Smith 72901	783-8917
FP	Kutait, Kemal E.	1120 Lexington, Fort Smith 72901	785-2655
IM	Lambiotte, Louis O.	1500 Dodson, Fort Smith 72901	782-2071
PTH	Landrum, Annette V	Post Office Box 1684, Fort Smith 72902	782-4983
GS	Landrum, Samuel E.	2901 South 74th, Fort Smith 72903	452-5332
OTO	Lane, Charles S., Jr.	600 South 16th, Fort Smith 72901	782-6022
AN	Lenington, Jerry O.	1500 Dodson, Fort Smith 72901	441-5291
IM	Lewing, Hugh S	404 South 16th, Fort Smith 72901	783-3158
D	Lewis, John E.	1500 Dodson, Fort Smith 72901	782-2071
FP	Lilly, Ken E.	1120 Lexington, Fort Smith 72901	785-2655
NS	Lockhart, William G	1500 Dodson, Fort Smith 72901	782-2071
GS	Lockwood, Frank M	1500 Dodson, Fort Smith 72901	782-2071
ORS	Long, James W	1500 Dodson, Fort Smith 72901	782-2071
NS	MacDade, Albert D	1500 Dodson, Fort Smith 72901	782-2071
D	Magness, Jack L., Jr.	Post Office Box 3528, Fort Smith 72913	452-2077
CD	Manus, Stephen C	Post Office Box 3528, Fort Smith 72913	452-2077
RD	Martin, Art B	2121 Wolfe Lane, Fort Smith 72901 (Res)	783-1237
FP	Martin, Maurice C. "Rick"	Post Office Box 366, Greenwood 72936	996-4111
	Marzewski, David J	Bloomsburg, Pennsylvania	
OBG	Mason, Joe N	1500 Dodson, Fort Smith 72901	782-2071
GE	Masri, Hassan M	1500 Dodson, Fort Smith 72901	782-2071, Ext. 264
PD	McClain, Merle E.	312 South 16th, Fort Smith 72901	782-7921
FP	McCraw, Gordon W	114 West Fourth, Booneville 72927	675-2455
GP	McDonald, H P.	2044 North 29th, Fort Smith 72904	782-4833
OPH	McEwen, Stanley R.	3000 Rogers, Fort Smith 72901	782-8892
FP	McKinney, Robert D	Post Office Box 426, Greenwood 72936	996-4111
IM	McMinimy, Donald J.	1500 Dodson, Fort Smith 72901	782-2071
GP	Meador, Don M	3600 North "O", Fort Smith 72904	783-5158
R	Miller, Robert C.	1500 Dodson, Fort Smith 72901	782-2071
GS	Mings, Harold H	1500 Dodson, Fort Smith 72901	782-2071
GP	Mitchell, Bob G	Sequoyah East Nursing Home, Roland, Oklahoma 74954	918-427-7401
OPH	Moulton, Everett C., Jr	7303 Rogers, Suite 318, Fort Smith 72903	452-9043

Type of Practice	Member's Name	Address	Telephone Number
OPH	Moulton, Everett C., III	7303 Rogers, Suite 318, Fort Smith 72903	452-9043
ORS	Mumme, Marvin E.	1500 Dodson, Fort Smith 72901	782-2071
#	Murchison, Roary A.	Fort Smith	
OBG	Muylaert, Michel	1501 South Waldron, Fort Smith 72903	452-8158
PD	Nassri, Louay	1500 Dodson, Fort Smith 72901	782-2071
PUD	Nichols, David R.	1500 Dodson, Fort Smith 72901	782-2071
D	Niemann, Jeffrey M.	316 Lexington, Fort Smith 72901	783-1121
CD	Nolewajka, Andre J	Post Office Box 3528, Fort Smith 72913	452-2077
GS	Olson, John D	1500 Dodson, Fort Smith 72901	782-2071
ORS	Osborne, D Frank	7303 Rogers, Fort Smith 72903	452-6522
GE	Paris, Charles H	Post Office Box 3528, Fort Smith 72913	452-2077
ORS	Parker, Douglas W., Jr	1500 Dodson, Fort Smith 72901	782-2071
PD	Parker, Joel E., Jr	617 South 16th, Fort Smith 72901	783-3165
IM	Parker, Stephen M.	320 North Greenwood, Fort Smith 72901	782-4470
R	Parker, Thomas G	1501 South Waldron, Suite 109, Fort Smith 72903	452-9416
CDS	Patrick, Donald L	1500 Dodson, Fort Smith 72901	782-2071
OBG	Pearce, Larry W	Post Office Box 3528, Fort Smith 72913	452-2077
IM	Pence, Eldon D., Jr	1501 South Waldron, Fort Smith 72903	452-8753
FP	Perrymore, W Dale	7110 Rogers, Fort Smith 72903	452-6362
GYN	Phillips, W P.	Post Office Box 3507, Fort Smith 72913	785-2411
FP	Pillstrom, Lawrence G	1120 Lexington, Fort Smith 72901	785-2655
IM	Poe, McDonald, Jr.	1501 South Waldron, Fort Smith 72903	452-8753
OBG	Poole, M. Louis	1501 South Waldron, Fort Smith 72903	452-8158
CD	Pope, John R	1500 Dodson, Fort Smith 72901	782-2071
PD	Post, James M.	617 South 16th, Fort Smith 72901	783-3165
IM	Pradel, Paul A	1501 South Waldron, Fort Smith 72903	452-8753
CD	Prewitt, Taylor A.	Post Office Box 3528, Fort Smith 72913	452-2077
IM	Price, Lawrence C.	404 South 16th, Fort Smith 72901	783-3158
NEP	Rabideau, Dana P.	1500 Dodson, Fort Smith 72901	782-2071
OTO	Raymond, Thomas H	600 South 16th, Fort Smith 72901	782-6022
N	Reul, Charles G	1500 Dodson, Fort Smith 72901	782-2071
EM	Reyenga, Stanley L.	1311 South "I", Fort Smith 72901	441-5011
AN	Robertson, Robert A.	1500 Dodson, Fort Smith 72901	441-5291
END	Robinson, Ronald P.	Post Office Box 3528, Fort Smith 72913	452-2077
R	Rogers, Paul L.	1501 South Waldron, Suite 109, Fort Smith 72903	452-9416
FP	Ross, R. Wendell	1120 Lexington, Fort Smith 72901	785-2655
R	Russell, Rex D	1500 Dodson, Fort Smith 72901	782-2071
AN	Safranek, Edward J.	216-A North Greenwood, Fort Smith 72901	783-1497
GS	Saviers, Boyd M.	1500 Dodson, Fort Smith 72901	782-2071
AN	Schemel, William H.	216-A North Greenwood, Fort Smith 72901	783-1497
IM	Schwarz, Paul R.	404 South 16th, Fort Smith 72901	783-3158
N	Serrano, Ernest E.	1500 Dodson, Fort Smith 72901	782-2071
GYN	Sherman, Robert L.	Post Office Box 3507, Fort Smith 72913	785-2411
GP	Shermer, J. P.	623 South 21st, Fort Smith 72901	783-4014
ORS	Sherrill, William M., Jr.	1500 Dodson, Fort Smith 72901	782-2071
PTH	Sigler, John K.	923 Lexington, Fort Smith 72901	785-1447
PTH	Smith, Kent	923 Lexington, Fort Smith 72901	785-1447
FP	Smith, Terrald J.	100 South 14th, Fort Smith 72901	785-2431
R	Snider, James R	1500 Dodson, Fort Smith 72901	782-2071
IM	Staggs, J. David	1500 Dodson, Fort Smith 72901	782-2071
RD	Stanton, William B.	Route 1, Box 101-A, Rudy 72952 (Res.)	632-3241
PUD	Stewart, Jerry R	Post Office Box 3528, Fort Smith 72913	452-2077
GP	Stewart, John B	603 Lexington, Fort Smith 72901	783-8917
PS	Still, Eugene F., II	1500 Dodson, Fort Smith 72901	782-2071
P	Stoltzman, Roger K.	1500 Dodson, Fort Smith 72901	782-2071, Ext. 356
FP	Swena, Richard R.	302 North 13th, Fort Smith 72901	785-2425
OBG	Tate, William B	1500 Dodson, Fort Smith 72901	782-2071
RD	Thompson, J Kenneth	3804 Free Ferry, Fort Smith 72903 (Res.)	783-5711
GP	Thompson, James B	605 Lexington, Fort Smith 72901	782-6081
GP	Thompson, Robert J.	605 Lexington, Fort Smith 72901	782-6081
HEM	Turner, William F.	1500 Dodson, Fort Smith 72901	782-2071
D	Vanderpool, Roy E.	Post Office Box 3528, Fort Smith 72913	452-2077
FP	Venturina, Arturo P.	Post Office Box 296, Huntington 72940	928-4404
CDS	Vernon, Rowland P., Jr.	1500 Dodson, Fort Smith 72901	782-2071
U	Wahman, Gerald E.	1500 Dodson, Fort Smith 72901	782-2071
OPH	Wallace, Kenneth K.	3000 Rogers, Fort Smith 72901	782-8892
PD	Walling, Robert V.	617 South 16th, Fort Smith 72901	783-3165
PD	Watts, John C	500 South 16th, Fort Smith 72901	783-1085
PUD	Webb, William K.	Post Office Box 3528, Fort Smith 72913	452-2077
GS	Weisse, John J.	5622 Rogers, Fort Smith 72903	452-4400
HEM	Wells, John D	Post Office Box 3528, Fort Smith 72913	452-2077
EM	Westbrook, Michael R.	1311 South "I", Fort Smith 72901	441-5011
AN	Westermann, Norman F.	1500 Dodson, Fort Smith 72901	782-2071
GYN	Whitaker, T. J., Jr.	1823 Dodson, Fort Smith 72901	782-4929
IM	White, J. Earle, III	1501 South Waldron, Suite 105, Fort Smith 72903	452-8661
A	Whiteside, Edwin	3416 Old Greenwood Road, Fort Smith 72903	646-8066
ORS	Wideman, John W	7303 Rogers, Suite 418, Fort Smith 72903	452-8122
GS	Wikman, John H.	1500 Dodson, Fort Smith 72901	782-2071
CDS	Williams, Carl L.	522 South 16th, Fort Smith 72901	785-1080
CD	Williams, Thomas N	1500 Dodson, Fort Smith 72901	782-2071
OTO	Wills, Paul I.	600 South 16th, Fort Smith 72901	782-6022
#	Wilson, Carl L.	Fort Smith	
U	Wilson, Morton C.	1500 Dodson, Fort Smith 72901	782-2071
U	Wilson, Steven K.	1500 Dodson, Fort Smith 72901	782-2071
ORS	Wolfe, Michael S	Post Office Box 3528, Fort Smith 72913	452-2077
TS	Woods, Leon P.	1500 Dodson, Fort Smith 72901	782-2071
R	Worrell, John A.	1501 South Waldron, Suite 109, Fort Smith 72903	452-9416
CDS	Zufari, Munir M.	2917 South 74th, Fort Smith 72903	452-7333

SEVIER COUNTY

GP	Brown, Olie D., Jr	Post Office Drawer 890, DeQueen 71832	642-2465
FP	Carlson, Kevin R.	North 4th and Heynecker, DeQueen 71832	642-2840
ADM	Daniel, J Frank	Highway 70 West, DeQueen 71832	642-2022
FP	Jones, Charles N	Highway 70 West, DeQueen 71832	642-2022
EM	McKiever, W R.	Post Office Box E, DeQueen 71832	584-4111
GS	Stearns, David E.	Highway 70 West, DeQueen 71832	642-5211
R	Yeh, William L.	1521 North 14th, DeQueen 71832	584-4111

ST. FRANCIS COUNTY

OBG	Barker, Charles L.	Post Office Box 551, Forrest City 72335	633-7051
GP	Cogburn, Harold N.	328 Kittel Road, Forrest City 72335	633-1425
FP	Collins, E Morgan	1801 Lindauer Road, Forrest City 72335	633-1952
FP	Crawley, Charles E.	328 Kittel Road, Forrest City 72335	633-1425
OBG	DeRossitt, James P.	1712 Lindauer Road, Forrest City 72335	633-0091
FP	Fong, Fun Hung	Post Office Box 735, Hughes 72348	339-2373

Type of Practice	Member's Name	Address	Telephone Number
GS	Gerritsen, Roy W	1600 Lindauer Road, Forrest City 72335	633-4896
FP	Hammons, Edward P	328 Kittel Road, Forrest City 72335	633-1425
FP	McGuire, Sam A	328 Kittel Road, Forrest City 72335	633-1425
FP	McPhail, George T	1801 Lindauer Road, Forrest City 72335	633-1952
FP	Seibel, Donald G	318 East Cook, Forrest City 72335	633-5656
FP	Woollam, Christopher J.	318 East Cook, Forrest City 72335	633-5656

TRI-COUNTY

GP	Arnold, Carl B	Post Office Box 457, Salem 72576	895-3281
GP	Benton, Thomas H	Post Office Box 366, Salem 72576	895-2990
FP	Bozeman, Jim G.	Highway 9 North, Salem 72576	895-2541
GP	Ducker, David E.	Post Office Box 547, Salem 72576	895-3215
GS	Grasse, A. Meryl	Post Office Box 438, Calico Rock 72519	297-3726
RD	Krygier, Albin J.	306 Royal Drive, Horseshoe Bend 72512 (Res.)	670-5865
FP	Lane, Robert C	Post Office Box 617, Calico Rock 72519	297-3726
GP	McCormack, John M.	Post Office Box 250, Mammoth Spring 72554	625-3228
FP	Meisenheimer, Martin P	Post Office Box 1019, Cherokee Village 72525	257-3929
FP	Moody, Michael N	Post Office Box 829, Salem 72576	895-2541
FP	Smith, James F	Post Office Box 155, Horseshoe Bend 72512	670-4754
GP	Tatum, Harold M	Post Office Box D, Melbourne 72556	368-4344
FP	Young, Timothy D.	South Allegheny, Hardy 72542	856-3213

UNION COUNTY

ORS	Bell, Robert S	619 West Grove, El Dorado 71730	863-5146
OBG	Booker, J. Gregory	704 West Grove, Suite 5, El Dorado 71730	863-8444
U	Bowman, Raymond N	619 North Newton, El Dorado 71730	862-5439
ORS	Callaway, James C.	705 West Faulkner, El Dorado 71730	863-6123
FP	Carroll, Peter J.	704 West Grove, El Dorado 71730	863-5509
GP	Clowney, Albert R	460 West Oak, Suite 400A, El Dorado 71730	863-8116
OTO	Cyphers, Charles D	519 West Faulkner, El Dorado 71730	862-3471
GP	Dunn, Tom L	Post Office Box 538, Hampton 71744	798-4272
PTH	Duzan, Kenneth R	443 West Oak, El Dorado 71730	862-1351
PTH	Elliott, Wayne G	443 West Oak, El Dorado 71730	862-1351
IM	Ellis, Jacob P.	490 West Faulkner, El Dorado 71730	863-2381
RD	Fitch, Leston E.	38 Meadowbrook Drive, Conway 72032 (Res.)	329-3230
IM	Flournoy, Durwood W	714 West Faulkner, El Dorado 71730	862-5184
P	Fraser, David B	715 North College, El Dorado 71730	862-7921
ORS	Giller, W. John, Jr	705 West Faulkner, El Dorado 71730	863-6123
IM	Hardin, A. Scott	714 West Faulkner, El Dorado 71730	862-5184
GP	Harper, John W	425 West Oak, El Dorado 71730	863-5135
ORS	Hartmann, Ernest R	619 West Grove, El Dorado 71730	863-5146
GP	Hill, Grady E.	427 West Oak, El Dorado 71730	863-7158
GE	Jones, Steve A.	714 West Faulkner, El Dorado 71730	862-5184
R	Jucas, Diana T.	700 West Grove, El Dorado 71730	864-3371
D	Jucas, John J.	525 West Faulkner, El Dorado 71730	862-5485
R	King, Billy D	403 West Oak, El Dorado 71730	862-9969
OPH	Landers, Gardner H	318 Thompson, El Dorado 71730	862-4216
FP	Maud, Patricia A.	490 West Faulkner, El Dorado 71730	863-2381
PD	McKinney, J. Schuler	209 Thompson, El Dorado 71730	862-4994
GS	Menendez, Moises A	412 North Washington, El Dorado 71730	862-3411
FP	Moore, Berry L., Jr	490 West Faulkner, El Dorado 71730	863-2362
GS	Moore, John H	412 North Washington, El Dorado 71730	862-3411
U	Murfee, Robert M	619 North Newton, El Dorado 71730	862-5439
R	Parkman, Robert L., Jr.	460 West Oak, El Dorado 71730	863-2253
R	Pellizzetti, A. G.	Post Office Box 1497, El Dorado 71731	864-7932
OTO	Pillsbury, Richard C.	613 Thompson, El Dorado 71730	863-0010
AN	Pinkerton, Raymond E.	700 West Grove, El Dorado 71730	864-3484
IM	Pirnique, Allan S	714 West Faulkner, El Dorado 71730	862-5184
OBG	Rabie, Fouad M	431 West Oak, El Dorado 71730	863-4101
OBG	Ratcliff, John B	704 West Grove, El Dorado 71730	863-8444
PD	Rogers, Henry B	209 Thompson, El Dorado 71730	862-4994
D	Sample, Dorothy C.	525 West Faulkner, El Dorado 71730	862-5485
R	Schultz, Wayne H.	305 North Washington, El Dorado 71730	862-5100
GS	Scurlock, William R.	412 North Washington, El Dorado 71730	862-3411
FP	Seale, James E	528 West Faulkner, El Dorado 71730	863-7154
FP	Sheppard, James M.	416 North Newton, El Dorado 71730	862-1211
FP	Smith, George W	704 West Grove, Suite 2, El Dorado 71730	862-7661
AN	Stevens, Willis M.	403 West Oak, Suite 105, El Dorado 71730	863-9303
PD	Sykes, James D.	403 West Oak, Suite 305, El Dorado 71730	862-2552
FP	Sykes, Robert R.	403 West Oak, Suite 301, El Dorado 71730	862-5571
GYN	Talley, H. Aubrey	403 West Oak, Suite 101, El Dorado 71730	862-0150
OBG	Thibault, Frank G., Sr	427 West Oak, Room 6, El Dorado 71730	862-5403
GS	Tommey, C. E.	412 North Washington, El Dorado 71730	862-3412
GS	Tommey, Robert C	412 North Washington, El Dorado 71730	862-3411
GYN	Turnbow, R. L.	427 West Oak, El Dorado 71730	863-6157
TR	Vasan, Srini	503 North Thompson, El Dorado 71730	864-0318
PD	Vyas, Dileep R.	317 Thompson, El Dorado 71730	863-2207
FP	Warren, George W	Post Office Box W, Smackover 71762	725-3471
IM	Weedman, James B.	714 West Faulkner, El Dorado 71730	862-5184
OPH	Williamson, John R	318 Thompson, El Dorado 71730	862-4216
IM	Wilson, Larkin M.	714 West Faulkner, El Dorado 71730	862-5184
OTO	Wise, Jean F	615 West Grove, El Dorado 71730	862-7918
NEP	Wu, William	317 Thompson, Suite 400-13, El Dorado 71730	863-2237
GS	Yocum, David M., Jr	412 North Washington, El Dorado 71730	863-4177
ONC	Zahniser, Donna J.	615 Thompson, El Dorado 71730	862-0532

VAN BUREN COUNTY

GP	Hall, John A	Post Office Box 310, Clinton 72031	745-2111
GP	Pearce, Charles G	Post Office Box 51, Clinton 72031	745-2412
RD	Read, Paul S	Route 2, Box 424, Fairfield Bay 72088 (Res.)	884-3939
GP	Stuteville, Orion H	Route 1, Box 307, St. Joe 72675 (Res.)	439-2555

WASHINGTON COUNTY

D	Albright, Spencer D., III	1925 Green Acres Road, Fayetteville 72701	443-3413
GP	Applegate, C. Stanley	220 Meadow Avenue, Springdale 72764	751-4637
ORS	Arnold, James A	Post Office Box 1988, Fayetteville 72702	443-0033
RD	Baggett, Jeff J	102 East Bush, Prairie Grove 72753 (Res.)	846-2312
OTO	Baker, C. Murl, Jr	4255 Venetian Lane, Fayetteville 72701	521-1238
FP	Baker, Donald B	241 West Spring, Fayetteville 72701	521-8264
PS	Beckman, James S., Jr.	3000 Market, Suite D, Fayetteville 72701	443-7771
FP	Benjamin, George H.	304 South Maxwell, Siloam Springs 72761	524-3141
EM	Blair, Patricia J.	607 West Maple, Springdale 72764	751-5711
PTH	Bond, Walter M	Post Office Box 817, Fayetteville 72702	443-3050
FP	Box, Ivan H	Post Office Box 1049, Huntsville 72740	738-2115

Type of Practice	Member's Name	Address	Telephone Number
PTH	Boyce, John M.	607 West Maple, Springdale 72764	751-5711
U	Brandon, Henry B	2100 Green Acres Road, Fayetteville 72701	442-5229
RD	Brooks, W Ely	Mount Pleasant, South Carolina	
OPH	Brown, Craig J.	Post Office Box 1834, Fayetteville 72702	521-5931
FP	Buckley, Carie D., Jr.	Post Office Box 959, Fayetteville 72702	442-2822
PD	Burnside, Wade W.,	207 East Dickson, Fayetteville 72701	443-3471
PD	Bush, Martha	2706 American, Springdale 72764	756-5277
IM	Butler, G Harrison	675 Lollar Lane, Fayetteville 72701	521-8200
AN	Cale, Charles F.	Post Office Box 3046, Fayetteville 72702	442-0825
FP	Capps, James A., Jr.	1215 South Thompson, Springdale 72764	756-0610
CD	Carver, Joel D	Post Office Box 186, Springdale 72765	756-9185
FP	Chalfant, Charles H	160-A Poplar, Fayetteville 72701	442-2712
R	Cherry, James F.	607 West Maple, Springdale 72764	751-5711, Ext. 2443
RD	Clark, P LeMon	1679 Elmwood, Fayetteville 72701 (Res.)	521-7657
FP	Clemens, R Dale	304 South Maxwell, Siloam Springs 72761	524-3141
ORS	Coker, Tom P	Post Office Drawer 1608, Fayetteville 72702	521-2752
OBG	Cole, George R., Jr.	740 Lollar Lane, Fayetteville 72701	521-4433
GP	Cook, Joe P	600 Razorback Road, Fayetteville 72701	575-4451
OBG	Councille, Clifford C., Jr	1011 North College, Fayetteville 72701	442-9809
AN	Covey, M. Carl	Post Office Box 800, Gentry 72734	736-8699
AN	Crawford, Perry F.	Post Office Box 1621, Fayetteville 72702	521-8843
NEP	Crittenden, David R.	100-A East Poplar, Fayetteville 72701	442-5295
OTO	Crocker, Thermon R	4255 Venetian Lane, Fayetteville 72701	521-1238
N	Davis, David A	3000 Market, Suite C, Fayetteville 72701	442-4070
PD	Decker, Harold A.	207 East Dickson, Fayetteville 72701	443-3471
OBG	DeSandre, Frank A	606 South Young, Springdale 72764	751-6284
AN	Dodson, C. Dwight	946 California, Fayetteville 72701	443-3387
RD	Dorman, John W	2000 Pin Oak, Springdale 72764 (Res.)	751-4527
N	Dow, R. W.	3000 Market, Suite C, Fayetteville 72701	442-4070
IM	Duncan, Philip E.	675 Lollar Lane, Fayetteville 72701	521-8200
GS	Eck, Gareth	Post Office Drawer A, Fayetteville 72702	521-3300
RD	Edmondson, Charles T.	Route 2, Box 473-E, Heber Springs 72543 (Res.)	362-2055
U	Fairchild, William V	2101 Green Acres Road, Fayetteville 72701	521-9166
#	Finch, Stephen B	Fayetteville	
OTO	Fincher, G Glen	2100 Green Acres Road, Fayetteville 72701	521-3363
ORS	Garbutt, L. H	Post Office Box 1790, Springdale 72765	751-6383
RD	Gardner, Buford M.	897 Crossover Road, Fayetteville 72701 (Res.)	443-3174
D	Ginger, John D.	102 West Dickson, Fayetteville 72701	521-2525
R	Greenhaw, James J	Post Office Box 36, Siloam Springs 72761	524-4141
R	Hackler, Keith	Post Office Box 1286, Fayetteville 72702	521-6480
CD	Haisten, James A S	Post Office Box 186, Springdale 72765	756-9185
IM	Hall, Joe B	675 Lollar Lane, Fayetteville 72701	521-8200
R	Harris, Murray T.	Post Office Box 1286, Fayetteville 72702	521-6480
ORS	Harris, W Duke	Post Office Drawer 1608, Fayetteville 72702	521-2752
OBG	Harrison, William F.	1011 North College, Fayetteville 72701	442-9809
FP	Hart, Hamilton R.	767 West North, Fayetteville 72701	521-3600
RD	Hathcock, P Loyce	909 Hall Avenue, Fayetteville 72701 (Res.)	442-4424
PD	Haynes, James E.	207 East Dickson, Fayetteville 72701	443-3471
IM	Hayward, Malcolm L., Jr.	675 Lollar Lane, Fayetteville 72701	521-8200
ORS	Heinzelmann, Peter R.	Post Office Drawer 1608, Fayetteville 72702	521-2752
RD	Henry, L. Murphey	Post Office Box 1267, Fayetteville 72702 (Res.)	442-9366
RD	Henry, Louise M.	Post Office Box 1267, Fayetteville 72702 (Res.)	442-9366
OPH	Henry, Morriss M.	Post Office Box 1727, Fayetteville 72702	442-5227
IM	Higginbotham, Hugh B	675 Lollar Lane, Fayetteville 72701	521-8200
GP	Huskins, James D.	304 South Maxwell, Siloam Springs 72761	524-3141
A	Hutson, Martha	2100 Green Acres Road, Fayetteville 72701	521-3363
CD	Inlow, Charles W	Post Office Box 186, Springdale 72765	756-9185
P	Jarvis, Fred D.	219 South Thompson, Springdale 72764	751-7052
	Johnson, Jorge H	Sioux Falls, South Dakota	
IM	Johnson, Stephen P	675 Lollar Lane, Fayetteville 72701	521-8200
GS	Kendrick, John H	Post Office Box 1519, Springdale 72765	751-3202
A	Koehn, Laura Jane B	2100 Green Acres Road, Fayetteville 72701	521-3363
PD	Lawson, Wilbur G.	207 East Dickson, Fayetteville 72701	443-3471
RD	Lesh, Ruth E.	356 North Washington, Fayetteville 72701 (Res.)	442-2163
RD	Lesh, Vincent O	356 North Washington, Fayetteville 72701 (Res.)	442-2163
AN	Lesniak, James L.	Post Office Box 1062, Fayetteville 72702	521-1550
PTH	Litton, Eva W	2520 Stanton Avenue, Fayetteville 72701 (Res.)	521-5690
OBG	Lushbaugh, Harmon	740 Lollar Lane, Fayetteville 72701	521-4433
GS	Magness, C. R	2059 Green Acres Road, Fayetteville 72701	521-1484
FP	Markland, Linda A.	241 West Spring, Fayetteville 72701	521-8260
IM	Martin, William C.	675 Lollar Lane, Fayetteville 72701	521-8200
OBG	Mashburn, James D	207 East Dickson, Fayetteville 72701	442-5377
RD	McAlister, Joseph H	Route 4, Box 188, Huntsville 72740 (Res.)	665-2767
RD	McAllister, Max F.	Brownsville, Texas	
OPH	McDonald, James E., II	461 East Township Road, Fayetteville 72701	521-2555
GP	McEvoy, Francis E.	803 Ouandt, Springdale 72764	751-9236
IM	Merritt, James M	Post Office Box 1906, Fayetteville 72702	521-5731
CDS	Miller, Charles H	Post Office Drawer A, Fayetteville 72702	521-3300
R	Mills, William C., III	Post Office Box 1286, Fayetteville 72702	521-6480
IM	Moore, Arthur F.	675 Lollar Lane, Fayetteville 72701	521-8200
ORS	Moore, James F	Post Office Drawer 1608, Fayetteville 72702	521-2752
GP	Moose, John I.	304 South Maxwell, Siloam Springs 72761	524-3141
P	Moritz, Timothy B.	4253 Crossover Road, Fayetteville 72701	521-5731
GS	Murry, J Warren	Post Office Drawer A, Fayetteville 72702	521-3300
PTH	Nettleship, Mae B	Post Office Box 817, Fayetteville 72702	443-3050
IM	Painter, Monroe B.	675 Lollar Lane, Fayetteville 72701	521-8200
ORS	Park, John P.	Post Office Drawer 1608, Fayetteville 72702	521-2752
OPH	Parker, Joe C.	700 South Young, Springdale 72764	751-1028
FP	Parker, Lee B , Jr	241 West Spring, Fayetteville 72701	521-8260
FP	Patrick, James K.	241 West Spring, Fayetteville 72701	521-8260
GS	Petrino, Robert A	Post Office Box 1519, Springdale 72765	751-3202
U	Pickett, James D	Route 9, Box 219, Fayetteville 72701	521-8980
GP	Power, John R.	220 Meadow Avenue, Springdale 72764	751-4637
FP	Proffitt, Danny L.	241 West Spring, Fayetteville 72701	521-8269
GP	Puckett, Billy J	304 South Maxwell, Siloam Springs 72761	524-3141
GYN	Rabon, Nancy A.	Evelyn Hills Shopping Center, Fayetteville 72701	442-8261
R	Riddick, Earl B., Jr.	Post Office Box 1286, Fayetteville 72702	521-6480
R	Riner, Dan M.	607 West Maple, Springdale 72764	751-5711
FP	Rogers, David L.	767 West North, Fayetteville 72701	521-3600
OBG	Romine, James C	740 Lollar Lane, Fayetteville 72701	521-4433
FP	Rouse, Joe P	767 West North, Fayetteville 72701	521-3600
NS	Runnels, Vincent B	Post Office Drawer 1608, Fayetteville 72702	521-2752
FP	Sexton, Giles A	Post Office Drawer 4275, Fayetteville 72702	521-5894
U	Shaddox, T. Stephen	1300 Zion Road, Box 219, Fayetteville 72701	521-8980
OPH	Sharp, Jim D	102 West Dickson, Fayetteville 72701	521-4949
RD	Siegel, Lawrence H.	233 Oakwood, Fayetteville 72701 (Res.)	442-2083
OPH	Singleton, E. Mitchell	Post Office Box 908, Fayetteville 72702	521-4843

Type of Practice	Member's Name	Address	Telephone Number
IM	Sisco, Charles P.	Post Office Box 65, Springdale 72765	751-4579
GP	Smith, Austin C	Post Office Box 1049, Huntsville 72740	738-2115
P	Stilwell, R Bronson	4171 Crossover Road, Suite E, Fayetteville 72701	521-5076
FP	Stinnett, Charles H	304 South Maxwell, Siloam Springs 72761	524-3141
GE	Tice, Howard L	100-A East Poplar, Fayetteville 72701	442-5295
FP	Titus, Janet L	Post Office Box 215, Winslow 72959	634-7071
FP	Tuttle, Larry D	22 East Spring, Fayetteville 72701	443-3417
FP	Vinzant, John W	22 East Spring, Fayetteville 72701	443-3417
R	Ward, H Wendell	Bates Hospital, Bentonville 72712	273-2481
FP	Weaver, Robert H	Post Office Box 9, Gentry 72734	736-2213
FP	Wheat, Ed	130 North Spring, Springdale 72764	751-5704
FP	Whiting, Tom D	803 Ouandt, Springdale 72764	751-9236
GP	Wilson, Robert B., Jr	Post Office Box 509, Huntsville 72740	738-2115
FP	Wilson, Steven C	767 North, Fayetteville 72701	521-3600
GP	Wiseman, Eve J	117 East Sycamore, Fayetteville 72701	521-0200
GS	Wood, Jack A	Post Office Drawer A, Fayetteville 72702	521-3300
OPH	Wright, Walter L	Post Office Box 908, Fayetteville 72702	521-4843

WHITE COUNTY

FP	Baker, Ronald L	2900 Hawkins Drive, Searcy 72143	268-5364
R	Bell, John E	1300 South Main, Searcy 72143	268-8500
GS	Blue, Glen T	Post Office Box 159, Searcy 72143	268-2441
CD	Blue, Leon R	2900 Hawkins Drive, Searcy 72143	268-5364
RD	Brown, Arnold R	1105 Dobbins Drive, Searcy 72143 (Res.)	268-2545
FP	Citty, Jim C	2900 Hawkins Drive, Searcy 72143	268-5364
FP	Collier, Steven	Post Office Box 277, Augusta 72006	347-2508
IM	Covey, David C	2900 Hawkins Drive, Searcy 72143	268-5364
FP	Davidson, Daniel S	2900 Hawkins Drive, Searcy 72143	268-5364
GP	Edwards, Hugh R	1300 South Main, Searcy 72143	268-5361
R	Elliott, Robert E	1300 South Main, Searcy 72143	268-8500
	Farrar, Henry C	Nigeria, Africa	
IM	Fincher, S Clark	2900 Hawkins Drive, Searcy 72143	268-5364
FP	Formby, Thomas A	2900 Hawkins Drive, Searcy 72143	268-5364
OBG	Gardner, Jack R	2900 Hawkins Drive, Searcy 72143	268-5364
GS	Gibbs, William M	2900 Hawkins Drive, Searcy 72143	268-5364
PTH	Golleher, James H	Post Office Box 1128, Searcy 72143	268-7186
ORS	Green, Terry G	1302 South Main, Searcy 72143	268-8677
CD	Henderson, John C	Post Office Box 77, Searcy 72143	268-7557
GP	Jackson, C W	Post Office Box 517, Judsonia 72081	729-3435
IM	Johnson, David M	2900 Hawkins Drive, Searcy 72143	268-5364
FP	Joseph, Eugene A	1300 South Main, Searcy 72143	268-7143
FP	Killough, Larry R	1300 South Main, Searcy 72143	268-7143
FP	Kinley, J. Garrett	Post Office Box D-2, Beebe 72012	882-3388
FP	Koch, Clarence W., Jr.	1304 South Main, Searcy 72143	268-5845
PD	Lewis, James S	1300 South Main, Searcy 72143	268-0707
OPH	Lowery, Benjamin R	408 West Vine, Searcy 72143	268-7154
OPH	Lowery, Robert D	408 West Vine, Searcy 72143	268-7154
GP	Maguire, Frank C., Jr	Post Office Box 500, Augusta 72006	347-2131
ORS	McCoy, James R	302 West Center, Searcy 72143	268-4168
U	Meacham, Kenneth R	1300 South Main, Suite 103, Searcy 72143	268-4313
U	Miedema, Edward B	1300 South Main, Suite 103, Searcy 72143	268-4313
OPH	Nevins, William H	Post Office Box 1054, Searcy 72143	268-2201
FP	Norris, E. Lloyd	Post Office Box D-2, Beebe 72012	882-3300
FP	Ransom, Clarence E., Jr.	1304 South Main, Searcy 72143	268-5845
D	Rasberry, Ronnie D	Post Office Box 177, Searcy 72143	268-4322
GS	Rodgers, Porter R., Jr	Post Office Box 159, Searcy 72143	268-2441
GS	Sanders, John K	2900 Hawkins Drive, Searcy 72143	268-5364
GP	Short, W Harold	Post Office Box 340, Beebe 72012	882-5561
GS	Simpson, James A	1300 South Main, Searcy 72143	268-2441
GP	Smith, Bernard C	Post Office Drawer C, Bradford 72020	344-2788
N	Smith, Bob W	Post Office Box 858, Searcy 72143	268-9815
FP	Staggs, David L	2900 Hawkins Drive, Searcy 72143	268-5364
PD	Stinnett, J L	2900 Hawkins Drive, Searcy 72143	268-5364
FP	Tate, Sidney W	2900 Hawkins Drive, Searcy 72143	268-5364
CD	Weathers, Larry W	Post Office Box 20, Searcy 72143	268-9869
IM	White, William D	2900 Hawkins Drive, Searcy 72143	268-5364
R	Williams, W Curtis	1300 South Main 72143	268-8500

WOODRUFF COUNTY

GP	Hendrixson, Basil E	Post Office Box J, McCrory 72101	731-5525
FP	Rowe, James E	Post Office Box 387, McCrory 72101	731-2511

YELL COUNTY

R	Berry, William L	Post Office Box 59, Dardanelle 72834	229-4891
RD	Bull, L. J.	Plainview 72857 (Res.)	272-4757
RD	Draeger, Louis A	Post Office Box 638, Danville 72833 (Res.)	495-2770
GP	Harris, Walter P	Post Office Box 490, Danville 72833	495-2714
FP	Hodges, Jerry F	Post Office Box 337, Dardanelle 72834	229-4172
FP	Luker, Jerome H	Post Office Box 337, Dardanelle 72834	229-4172
GP	Martin, Damon G. H.	Post Office Box 328, Ola 72853	489-5801
ADM	Maupin, James L	Post Office Box 2607, Fort Smith 72902	785-2471
GP	Pennington, James O	Post Office Box 68, Ola 72853	489-5241
FP	Ring, Gene D	Post Office Box 337, Dardanelle 72834	229-4172
GP	Russell, Gary W	Highway 22 West, Dardanelle 72834	229-4172

MEMBER-AT-LARGE

	Bissada, Nabil K	Riyadh, Saudi Arabia	

CODES FOR TYPE OF PRACTICE

A	Allergy
ADM	Administrative Medicine
AN	Anesthesiology
CD	Cardiovascular Diseases
CDS	Cardiovascular Surgery
CHP	Child Psychiatry
CRS	Colon and Rectal Surgery
D	Dermatology
EM	Emergency Care
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Arkansas Medical Society	Thursday, April 18 — Sunday, April 21, 1985, Arlington Hotel, Hot Springs Thursday, April 17 — Sunday, April 20, 1986, Excelsior Hotel, Little Rock	
American Medical Association House of Delegates	Annual Meeting June 16-20, 1985	Chicago
	Interim Meeting December 8-11, 1985	Washington, D.C.
	Annual Meeting June 15-19, 1986	Chicago
	Interim Meeting December 7-10, 1986	Las Vegas
American Medical Association Leadership Conference	February 14-16, 1985	Palmer House Chicago

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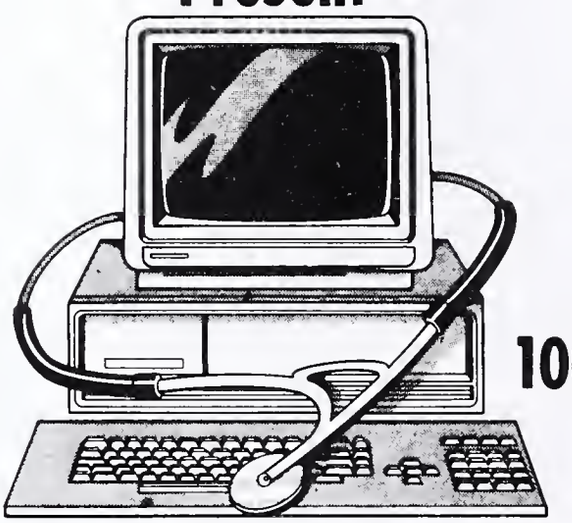


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WALDRON. Population 3,000; service area population 15,000. Located 45 miles south of Fort Smith in the heart of the Ouachita National Forest. An excellent opportunity is available for a physician to do family practice and obstetrics. There are currently four family practitioners and one general surgeon in Waldron. Each maintains an independent clinic, but they work closely together in providing off duty coverage. St. Edward Mercy Medical Center, a 341 bed hospital in Fort Smith, owns and operates Mercy Hospital of Scott County and Pinewood Nursing Home in Waldron. A totally new, 27 bed, all private room hospital facility with modern operating rooms, laboratory, radiology, and other clinical facilities was opened in September 1983. Pinewood Nursing Home has a capacity of 85 beds with future expansion plans to include an apartment living center for the elderly. The hospital facility includes a modern physicians' office building. A contractual arrangement with a guaranteed minimum and other benefits will be provided to the physician chosen for this opportunity.

For additional information, contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

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Physicians applying must be qualified for appointment to hospital staffs in Hot Springs, Arkansas.

MARIANNA. Population 6,100; trade area population about 20,000. Opportunities exist in family practice, general practice, general surgery, internal medicine. Office space is available. Opportunities exist for private practice or join a government-funded clinic on a salaried basis. There is a 25 bed acute care facility in Marianna.

NEWPORT. Population 9,000; trade area population approximately 45,000. Opportunities exist in family practice, pediatrics, and cardiology. The community has two fully accredited acute care general hospitals, one 75 bed and the other 132 bed. There are currently 16 physicians serving the community. A financial incentive program is available.

HARTFORD. Population 700. Opportunity exists in family practice or general practice in this community which has a trade area population of approximately 7,500. There are currently no physicians serving Hartford, which is located 30 miles south of Fort Smith. There exists a newly constructed 16 room clinic which is partially furnished.

VILONIA. Population 1,000 with a trade area population of approximately 6,000. The community is located 30 minutes from Little Rock and currently has no physician coverage. Office space is available.

FORDYCE. Population 5,200; trade area population approximately 18,000. Opportunity exists for family physician to locate in Fordyce and share office building with another family physician. Other office space is available. Also needed are a general surgeon and an obstetrician-gynecologist. Three family physicians currently practice in Fordyce. The town has a 51 bed general hospital and two skilled nursing homes.

WALNUT RIDGE/HOXIE. Population 8,100; trade area population 15,000. Walnut Ridge is 90 miles northwest of Memphis, Tennessee. An orthopaedic surgeon and a radiologist are needed. Physicians would receive the complete cooperation from the hospital, medical staff, and the community. Group practice is available. Walnut Ridge/Hoxie presently has five family practitioners, one general surgeon, and one internist. Lawrence Memorial Hospital in Walnut Ridge is a 48 bed, general-acute facility, fully accredited by JCAH.

MENA. Population 5,132; county population 16,984. Mena is 82 miles from Fort Smith and 77 miles from Hot Springs, where most specialties are represented. There is a very good opportunity for practice in Mena. The town presently has four family practitioners, three general practitioners, and one radiologist. The doctors feel there is a desperate need for specialists, i.e., surgeons, internists, ob/gyn, orthopaedists, pediatricians, urologists, and family practitioners. There is a new 57 bed, all private rooms, accredited general hospital in Mena and two nursing homes with a total bed capacity of 174.

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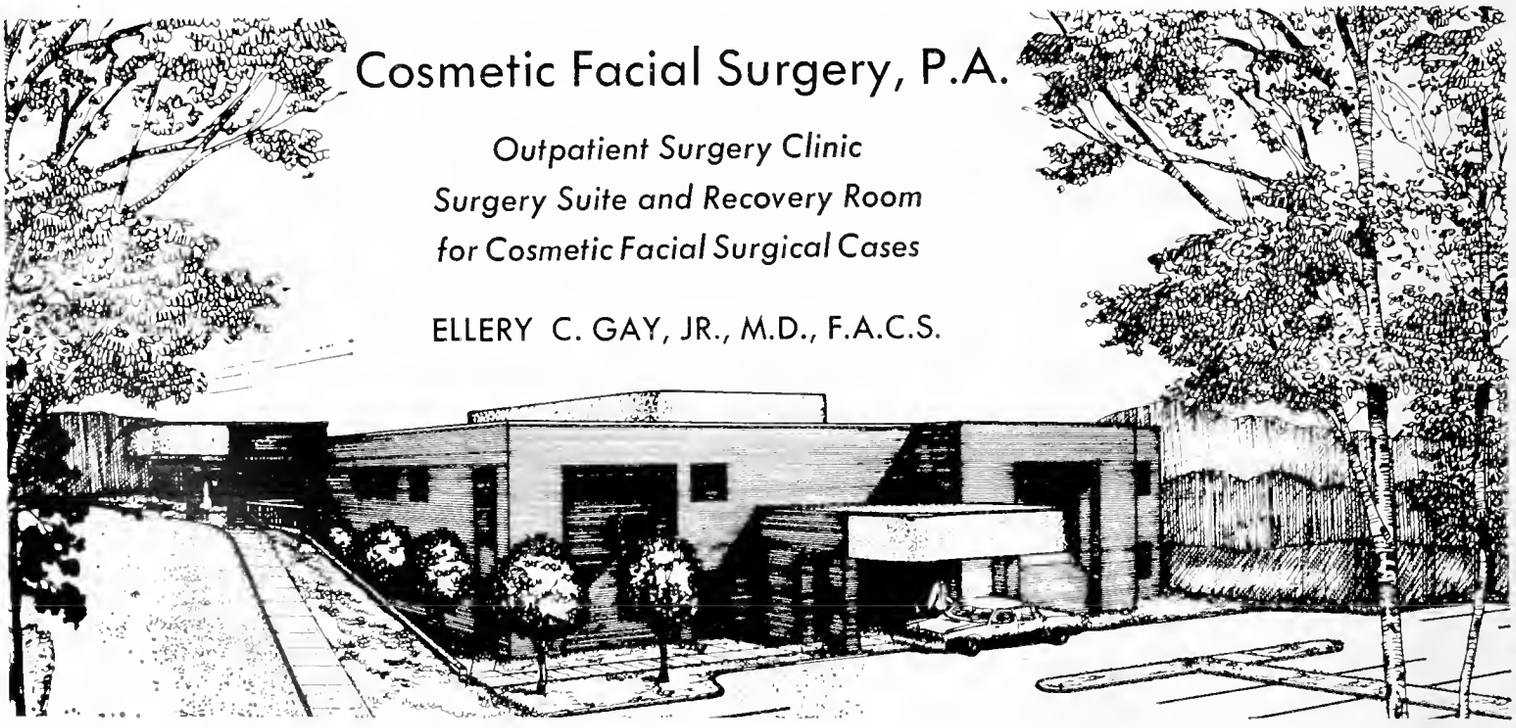
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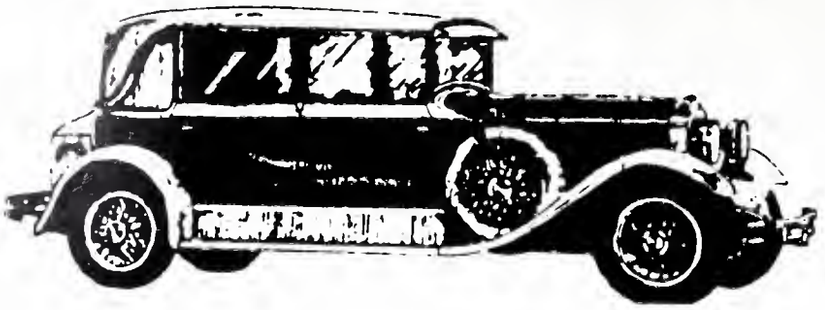
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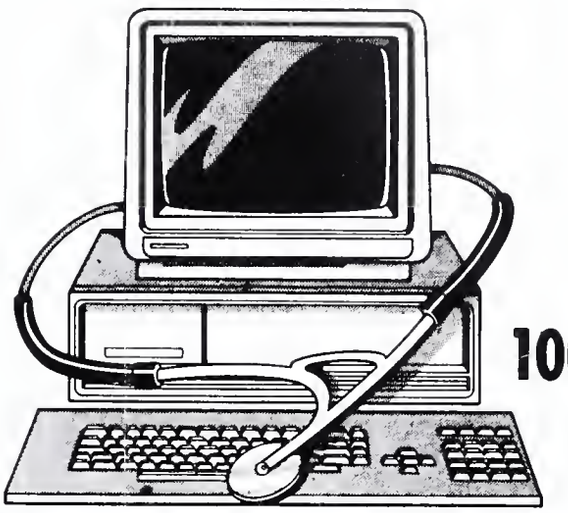
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NEWS — Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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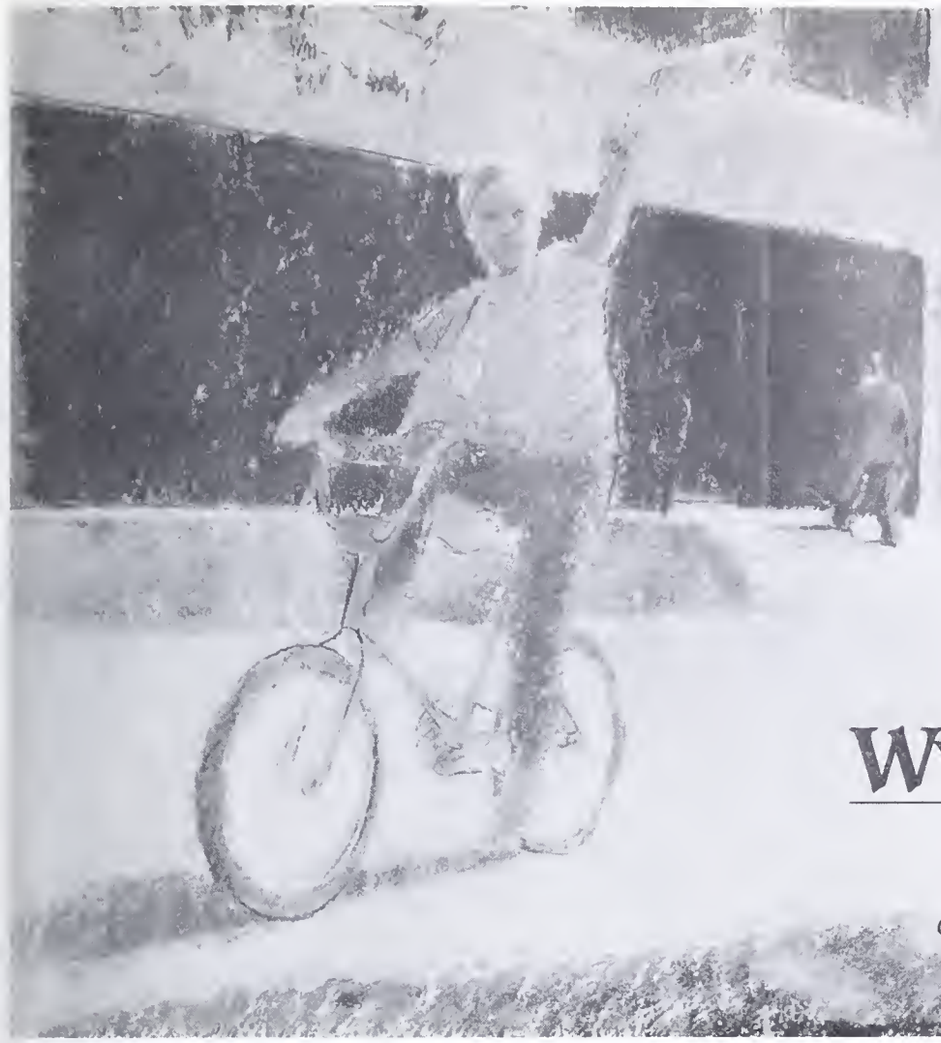
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New study reveals no interaction betwee



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In a study evaluating the influence of propoxyphene coadministration on the pharmacokinetics of the oxidatively metabolized benzodiazepines Xanax® (alprazolam) C-IV and Valium® (diazepam) C-IV, and a benzodiazepine metabolized by conjugation, Ativan® (lorazepam), the following results were reported:

with Xanax, propoxyphene caused a large and highly significant prolongation of half-life and impairment of total metabolic clearance.[1]

in the case of Valium, propoxyphene produced a small but not statistically significant impairment of clearance.[1]

propoxyphene had no apparent effect on the distribution, half-life or clearance of Ativan.[1]

In this randomized crossover study, eight healthy male and female volunteers received single oral doses of alprazolam (1 mg), six received single IV doses of diazepam (10 mg), and five received single IV doses of lorazepam (2 mg), once in a drug-free control state and again during coadministration of propoxyphene (65 mg q6h). Consistent with previous findings, this study evidences that Ativan does not interact with drugs that undergo oxidative metabolism.[2-5] In contrast to most other benzodiazepines, Ativan does not compete for the cytochrome P-450 enzyme system.

The clinical implications of the pharmacokinetic interaction, or non-interaction, of propoxyphene with benzodiazepines are not established by this study. Even without a pharmacokinetic interaction, propoxyphene and benzodiazepines share central depressant properties and therefore should be coadministered with suitable caution. A concurrent pharmacokinetic interaction indicates a need for even further caution. Coadministration of propoxyphene and alprazolam, for example, would produce not only the expected pharmacodynamic interaction, but also whatever additional central depressant effect would be produced by the elevated steady-state plasma concentrations of alprazolam due to its impaired clearance.

Caution should also be observed when propoxyphene is prescribed for patients who use alcohol to excess.

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Data on file, Wyeth Laboratories.

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Brief Summary of Prescribing Information.

Indications and Usage: Management of anxiety disorders or short-term relief of symptoms of anxiety or anxiety associated with depressive symptoms. Anxiety or tension associated with stress of everyday life usually does not require treatment with an anxiolytic.

Effectiveness in long-term use, i.e., more than 4 months, has not been assessed by systematic clinical studies. Reassess periodically usefulness of the drug for the individual patient.

Contraindications: Known sensitivity to benzodiazepines or acute narrow-angle glaucoma.

Warnings: Not recommended in primary depressive disorders or psychoses. As with all CNS-acting drugs, warn patients not to operate machinery or motor vehicles, and of diminished tolerance for alcohol and other CNS depressants.

Physical and Psychological Dependence: Withdrawal symptoms like those noted with barbiturates and alcohol have occurred following abrupt discontinuance of benzodiazepines (including convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Addiction-prone individuals, e.g. drug addicts and alcoholics, should be under careful surveillance when on benzodiazepines because of their predisposition to habituation and dependence. Withdrawal symptoms have also been reported following abrupt discontinuance of benzodiazepines taken continuously at therapeutic levels for several months.

Precautions: In depression accompanying anxiety, consider possibility for suicide.

For elderly or debilitated patients, initial daily dosage should not exceed 2mg to avoid oversedation. Terminate dosage gradually since abrupt withdrawal of any antianxiety agent may result in symptoms like those being treated: anxiety, agitation, irritability, tension, insomnia and occasional convulsions. Observe usual precautions with impaired renal or hepatic function. Where gastrointestinal or cardiovascular disorders coexist with anxiety, note that lorazepam has not been shown of significant benefit in treating gastrointestinal or cardiovascular component. Esophageal dilation occurred in rats treated with lorazepam for more than 1 year at 6mg/kg/day. No effect dose was 1.25mg/kg/day (about 6 times maximum human therapeutic dose of 10mg/day). Effect was reversible only when treatment was withdrawn within 2 months of first observation. Clinical significance is unknown; but use of lorazepam for prolonged periods and in geriatrics requires caution and frequent monitoring for symptoms of upper G.I. disease. Safety and effectiveness in children under 12 years have not been established.

ESSENTIAL LABORATORY TESTS: Some patients have developed leukopenia, some have had elevations of LDH. As with other benzodiazepines, periodic blood counts and liver function tests are recommended during long-term therapy.

CLINICALLY SIGNIFICANT DRUG INTERACTIONS: Benzodiazepines produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

CARCINOGENESIS AND MUTAGENESIS: No evidence of carcinogenic potential emerged in rats during an 18-month study. No studies regarding mutagenesis have been performed.

PREGNANCY: Reproductive studies were performed in mice, rats, and 2 strains of rabbits. Occasional anomalies (reduction of tarsals, tibia, metatarsals, malrotated limbs, gastroschisis, malformed skull and microphthalmia) were seen in drug-treated rabbits without relationship to dosage. Although all these anomalies were not present in the concurrent control group, they have been reported to occur randomly in historical controls. At 40mg/kg and higher, there was evidence of fetal resorption and increased fetal loss in rabbits which was not seen at lower doses. Clinical significance of these findings is not known. However, increased risk of congenital malformations associated with use of minor tranquilizers (chlordiazepoxide, diazepam and meprobamate) during first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, use of lorazepam during this period should almost always be avoided. Possibility that a woman of child-bearing potential may be pregnant at institution of therapy should be considered. Advise patients if they become pregnant to communicate with their physician about desirability of discontinuing the drug. In humans, blood levels from umbilical cord blood indicate placental transfer of lorazepam and its glucuronide.

NURSING MOTHERS: It is not known if oral lorazepam is excreted in human milk like other benzodiazepines. As a general rule, nursing should not be undertaken while on a drug since many drugs are excreted in milk.

Adverse Reactions, if they occur, are usually observed at beginning of therapy and generally disappear on continued medication or on decreasing dose. In a sample of about 3,500 anxious patients, most frequent adverse reaction is sedation (15.9%), followed by dizziness (6.9%), weakness (4.2%) and unsteadiness (3.4%). Less frequent are disorientation, depression, nausea, change in appetite, headache, sleep disturbance, agitation, dermatological symptoms, eye function disturbance, various gastrointestinal symptoms and autonomic manifestations. Incidence of sedation and unsteadiness increased with age. Small decreases in blood pressure have been noted but are not clinically significant, probably being related to relief of anxiety.

Transient amnesia or memory impairment has been reported in association with the use of benzodiazepines.

Overdosage: In management of overdosage with any drug, bear in mind multiple agents may have been taken. Manifestations of overdosage include somnolence, confusion and coma. Induce vomiting and/or undertake gastric lavage followed by general supportive care, monitoring vital signs and close observation. Hypotension, though unlikely, usually may be controlled with Levarterenol Bitartrate Injection U.S.P. Usefulness of dialysis has not been determined.

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GRAVETTE. Population 1,300 and a county population of 60,000. Gravette is located in the rolling hills of the Ozark Mountains, within one hour of eleven major lakes and numerous rivers and streams. An excellent opportunity exists for family physicians and an internist with pulmonary sub-speciality. The community has a 100-bed multi-story hospital which is equipped with the latest supportive equipment. The community has 13 physicians.

GURDON. Population 2,700, service area population 6,000. An excellent opportunity exists in family practice. The community has a fully staffed and equipped clinic available adjacent to the 28-bed Gurdon Municipal Hospital. A new, modern inpatient facility was dedicated in 1984 and the community has a 65-bed nursing home and local ambulance service. Timber and timber related industries are the primary resources of income. The International Paper Company recently completed a 30 million dollar expansion creating several new jobs in the area.

For additional information contact Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

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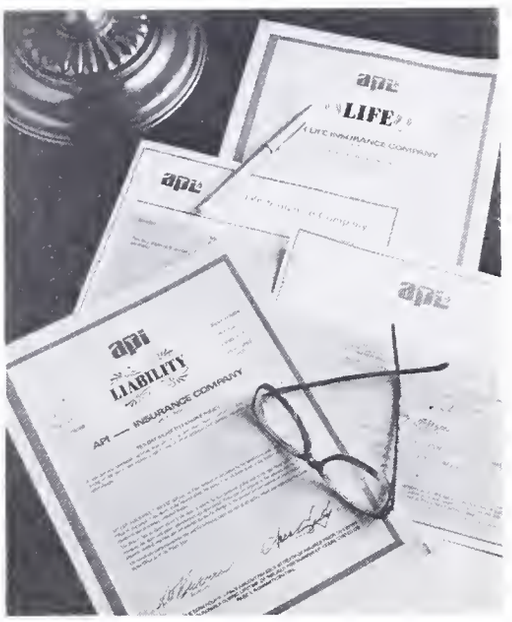
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HEBER SPRINGS. Population 5,000 with a trade area population of 17,000. Opportunities exist in internal medicine and cardiology. The community has a 54-bed acute care hospital and plans are underway to construct a 10-physician clinic near the hospital. Heber Springs is located in a year-round vacation spot near the 40,000-acre Greer's Ferry Lake, and is located approximately an hour's drive from Little Rock.

SHERIDAN. Population 3,000 with a county population approximately 13,000. Opportunities exist in general practice and family practice. The community is located in the central part of the State, 33 miles south of Little Rock and 24 miles west of Pine Bluff. Timber covers 80% of Grant County, providing excellent recreation and unmatched wildlife habitat. The city itself maintains several recreational parks, and the Sheridan Golf and Country Club has a nine-hole golf course, club house, tennis courts, and a six-acre fishing lake. The public school system is fully accredited by the North Central Association and higher education facilities are available at the University of Arkansas at Little Rock, 32 miles away, and the University of Arkansas at Pine Bluff is 25 miles away.

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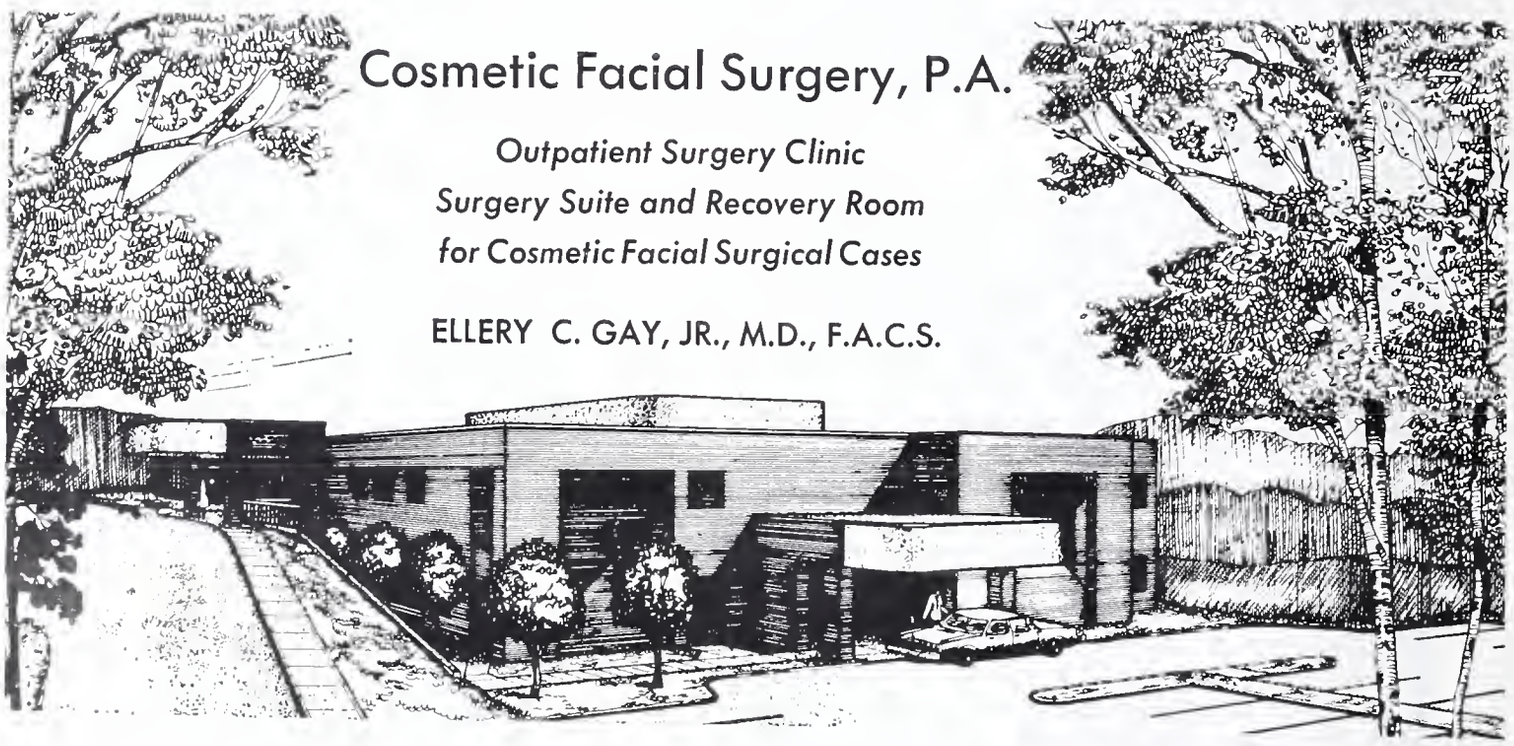
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The meeting will begin with business session on THURSDAY, APRIL 18, 1985. Socioeconomic seminar scheduled for Thursday, April 18; General Scientific Sessions will be on Friday morning, April 19, and Saturday morning, April 20. Saturday afternoon is reserved for specialty group meetings. The Convention will conclude with business session on Sunday, April 21, 1985.

The Scientific Program theme will be "Health Care Issues for 1985."

Reservations should be made with hotel as soon as possible. The convention coincides with racing season at Oaklawn.

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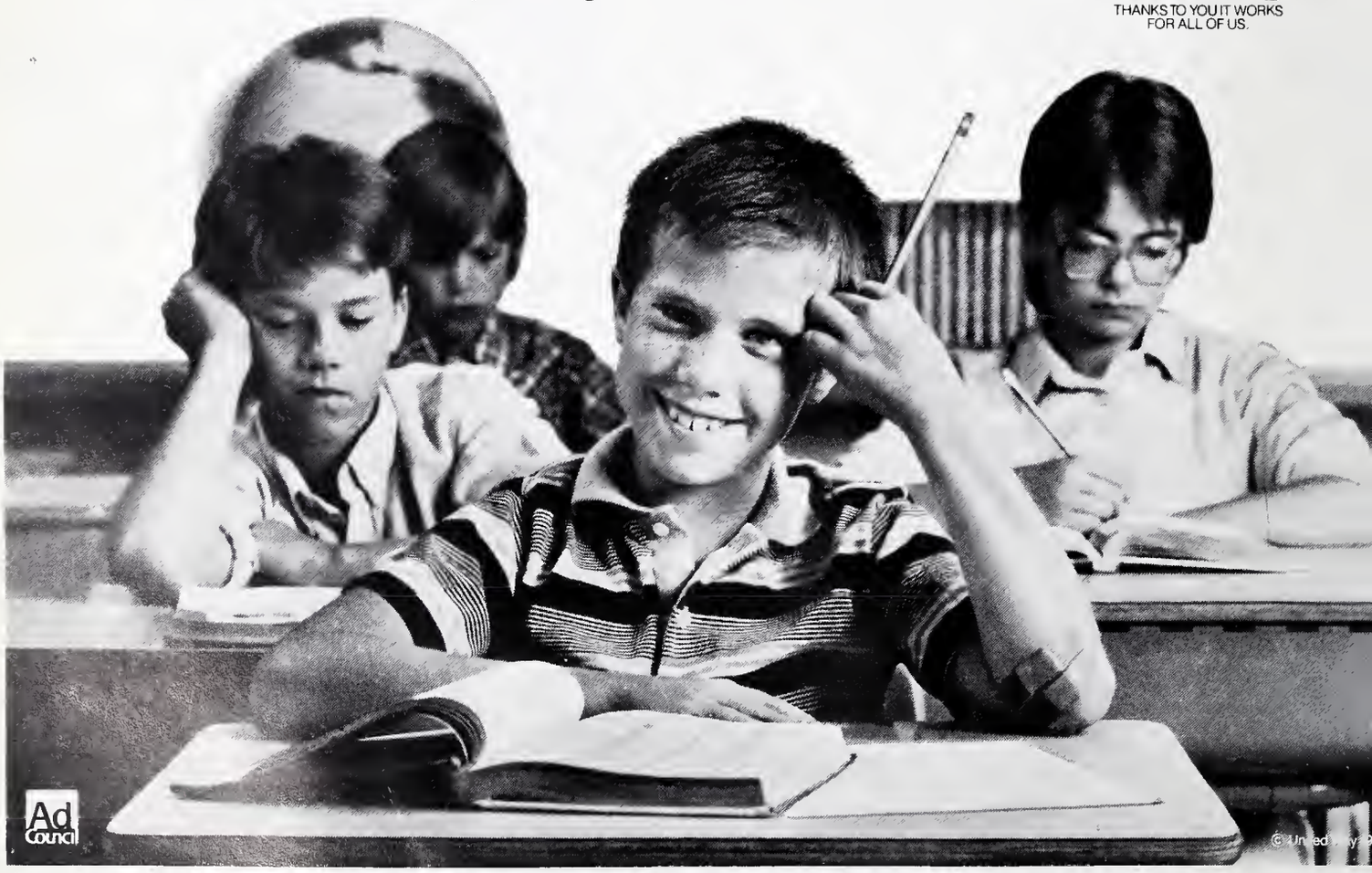
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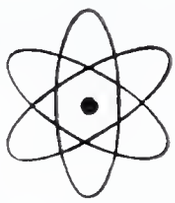
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The Surgical Management of Erectile Impotence

Barre F. Finan, M.D.*

INTRODUCTION

With the nearly simultaneous development of the intracorporal, inflatable penile prosthesis[1] and the intracorporal, semi-rigid penile prosthesis in 1973,[2] the era of penile prosthetic surgery began. Prior to this era, therapy was limited and erectile impotence was most often attributed to psychiatric illness or simply a part of the aging process. In fact, 90% of impotence was considered to be psychogenic in origin. However, with the development of greater diagnostic expertise, it has been shown that greater than 60% of impotence is of an organic etiology. Herein we review the diagnostic evaluation and surgical treatment options available for patients suffering from erectile impotence.

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Anatomy and Physiology

Erection is a vascular phenomenon, neurologically mediated, which is influenced by the hormonal environment. Specifically, the two corpora cavernosa fill with blood following physical or psychological stimulation. Blood flow must increase greater than 20 times that of the flaccid state for an adequate erection to be obtained. Although hormones do play a supportive role in erectile function, almost half of men requiring

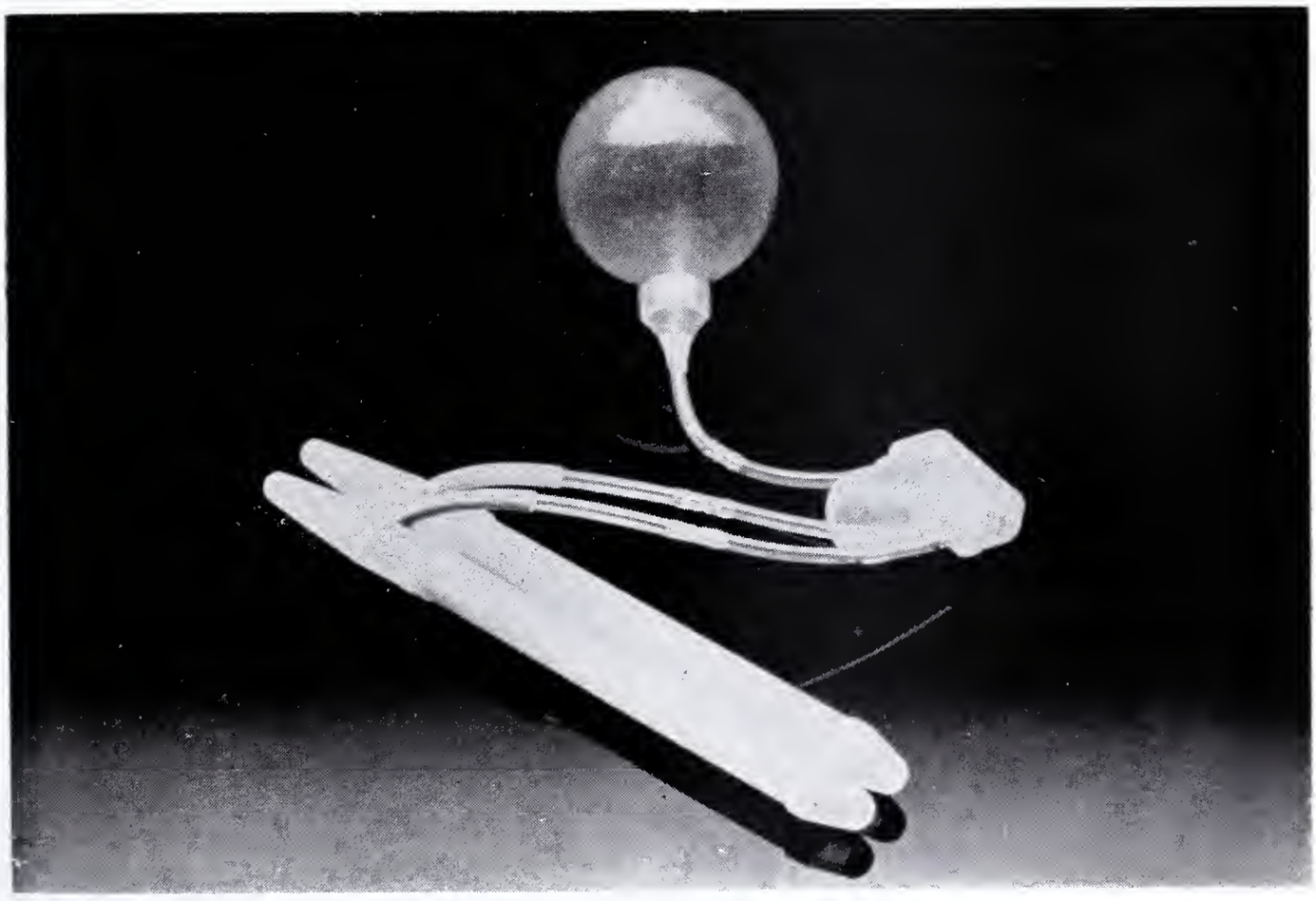


Figure 1.

This shows the latest design in the American Medical Systems inflatable penile prosthesis. The teflon coating of the tubing as it exists from the cylinders has eliminated the long term wear of tubing against the cylinders. A modification of the pump now allows for deflation of the cylinders by pressing at any point along the base of the pump. A nonkinkable tubing is used from the reservoir to the pump. These modifications have enhanced the longevity of the device as well as its ease of use and satisfaction for the patient.

bilateral orchiectomy are able to obtain and maintain an erection. Nevertheless, any disease process which effects the neurological, vascular or hormonal status can disrupt this process. End organ damage may also prevent an adequately erect penis for sexual intercourse.

Diagnostic Evaluation

A detailed history and physical examination will provide the diagnosis in most cases. In general, questions regarding erectile capacity are most helpful. Loss of early morning erection and loss of erection during intercourse are almost universally present. A loss of a erectile girth is also a common complaint. These problems are usually of gradual onset, therefore, an acute development of impotence is often times considered psychologic in nature.

The medical history often reveals the specific etiology. Diabetes mellitus, hypertension, atherosclerotic heart disease and peripheral vascular disease are commonly present. Medications, especially the antihypertensives may lead to impotence. Interestingly, cimetidine is commonly associated with impotence. Substitution of medications often leads to the return of erectile capacity. However, at times impotence persists regardless of substitution and necessitates consideration of penile prosthetic surgery.

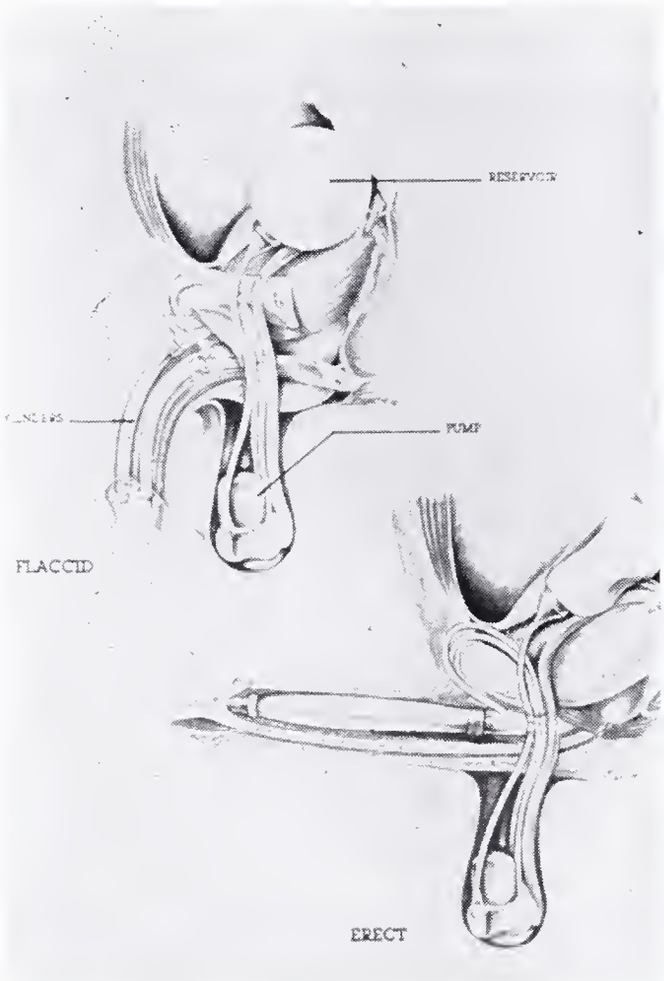


Figure 2.

This drawing represents the position of each component of the device and its mechanism of function. By pressing on the pump, the patient is able to transfer fluid from the reservoir into the cylinders resulting in an erection. The pump is placed within the scrotum in a lateral or posterior position and its presence is not apparent without an examination of the scrotum.

Surgical procedures are also a frequent cause of impotence. Radical pelvic surgery and vascular surgery are the most common operative procedures associated with impotence. However, lymphadenectomy, transurethral prostatic surgery and herniorrhaphy have been associated with impotence.

The physical examination is most helpful with respect to vascular and end organ problems. Stigmata of peripheral vascular disease of the lower extremities along with loss of or decrease in femoral pulses may be present. Palpation of the penis for the presence of Peyronie's plaque should be carried out. Testing for neurological disorders should include not only sensation but also rectal tone and the presence or absence of a bulbocavernosa reflex.

If questions persist in regard to the patient's erectile capacity, numerous diagnostic aids are available to document or confirm the diagnosis. The most reliable is a study of nocturnal penile tumescence. This study is based on the fact that normally six to eight erections occur nightly during rapid eye movement sleep. The patient must spend three consecutive nights in a sleep lab in order to document not only the presence of rapid eye movement sleep but also the absence of an erection. Partial erectile capacity is documented by both strain gauge measurement and photograph. This type of testing is technically difficult and expensive. As a result, simpler devices have been designed. Penile snap gauges[3] which are worn at the base of the penis, are available to document the presence or the absence of a full or partial erection. Portable nocturnal penile tumescence monitoring is also available for home use. However, both of these methods lack the control of a sleep lab and, therefore, are subject to patient error.

The vascular supply of the penis may be documented with a penile blood pressure obtained with a digital blood pressure cuff and a doppler stethoscope. A penile to brachial systolic arterial pressure index of greater than 0.75 is considered adequate. Psychologic screening with an MMPI

is often recommended in order that a referral to a psychiatrist may be done if abnormalities are discovered.

Extensive laboratory studies are usually not a necessary part of the evaluation. However, a fasting blood sugar should be done if undiagnosed diabetes mellitus is suspected. Routine evaluation of serum testosterone level is not indicated. However, if a patient presents with a loss of Libido, a serum testosterone level should be done to rule out a prolactin secreting tumor.

Following this evaluation both the patient and his partner should be counseled regarding of the options of prosthetic implantation. Sometimes psychological evaluation is necessary and helpful in the perioperative period to aid in marital adjustment to the patients newly achieved erectile capacity.

Types of Prosthesis

In general, two types of penile prosthetic devices exist. The semi-rigid device as originally designed provides for a constant erection with no provisions made in regards to concealment. Finney[4] devised a prosthesis with a hinge at the base of the penis to allow for more flexibility of the prosthesis to aid in concealment. This was followed by the development by Jonas[5] of a prosthesis which incorporated a malleable silver rod into the silicone prosthesis. This rod allowed for the penis to be bent into a position for voiding and to be changed as needed for intercourse. A similar prosthesis with a stainless steel rod has recently been manufactured by American Medical Systems.

These semi-rigid prosthetic devices are technically easy to insert, relatively inexpensive and have very few complications. However, the problem of concealment of a permanent erection continues to exist despite the improvement provided by the flexible rod.

The inflatable penile prosthesis permits voluntary control of an erection and produces a nearly normal appearing erection. Its principal disadvantage is the possibility of a mechanical failure requiring surgical revision. The device consists of two inflatable cylinders, a pump which is placed within the scrotum, and a reservoir placed underneath the erectus abdominus musculature. Recent improvements in the device have signifi-



Figure 3.

This shows an erection in a patient produced by the prosthetic device.

cantly decreased the problems of mechanical malfunction. This has resulted in an increasing number of patients choosing this device for implantation.

Surgical results of both types of prosthesis have sustained a high degree of success.[6] Patients' satisfaction has consistently been reported greater than 90%. An uncommon problem of both prosthesis is that of infection. Approximately 3% of prosthetic devices are removed due to infectious problems. The problem of persistent postoperative pain is seen primarily with diabetic men choosing the semi-rigid prosthesis and may be related to the neuropathy involved.[7]

Mechanical malfunctions are the principle complications seen with the inflatable prosthesis. Surgical correction of these problems is usually relatively simple and with the more recent models of the device mechanical problems have become uncommon. Unlike the semi-rigid device, the complications of pain, erosion and concealment are rare with the inflatable device.

SUMMARY

The development of intracorporal penile prosthetic devices have revolutionized the treatment of erectile impotence. Over 20,000 devices have been implanted with a success rate of over 90%. As the public becomes more educated regarding these newly available devices, more will choose to have penile prosthetic implantations. Certainly every patient suffering from impotence deserves a thorough evaluation and discussion of these newly created treatment options.

TABLE I
ETIOLOGIES OF IMPOTENCE

1. Diabetes Mellitus	5. Post Radical Surgery
2. Neurogenic	6. Medications
3. Vascular	7. Priapism
4. Trauma	8. Peyronie's Disease

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Current Concepts of Chronic Pain Management

Harold Carron, M.D.*

Chronic pain is rarely a continuation of nociceptive input, but is a complex behavioral problem resulting from psychosocial and emotional changes which relate to the implications of the injury, previous experience, cultural and ethnic considerations, and compensation and secondary gain.

Physicians are trained to recognize the acute pain model wherein a nociceptive event produces somatic and autonomic responses and where, once diagnosis is made, treatment is effective. When the pain exists beyond the period of tissue healing, however, or when disability exists in excess of the physical findings, the physician, in his perplexity and based on his training, will often devise diagnostic tests and exploratory surgery to "seek the source of the pain." In the process, and at the patient's request for pain relief, stronger and stronger analgesics, narcotics, and anti-anxiety agents are prescribed leading to drug habituation and perpetuation of disability. Often, the need for further drug dosage to prevent withdrawal effects is interpreted by the patient as pain and a vicious cycle is developed.

Suffering, the affective response to chronic pain leads to depression, hypochondriasis, and social isolation. What we see and find on examination is not the disability, but the suffering which is endured by the patient. This is the true enigma of chronic pain, for we, as physicians, are often at a loss to understand major impairment of function in the absence of positive physical findings.

It is obvious that not all patients who sustain injury become chronic pain patients. What then, differentiates those patients who are able to function in the presence of moderate nociception and sometimes marked impairment from others with minimal findings who are totally disabled? There are many factors which suggest that certain patients will develop chronic pain behavior. Individuals with basic personality disorders, those who are unable to develop a proper balance between work and family, hard striving individuals working many hours of overtime, and those who had role models for disability at home during childhood are prone to become chronic sufferers. Boring, repetitive type of work with little job satisfaction and chronic insecurity relative to employment tend to allow a minor injury to function as "the way out."

Our social system, as well, contributes to the development of chronic pain behavior. This country is "illness" rather than "wellness" oriented, with many rewards for those who are unable to function effectively in society. Worker's Compensation, Social Security Disability, Disability Retirement, plus the fact that such income is nontaxable, often makes it possible for the individual to retire with pain at a higher take-home income than when employed.

Evaluation

How, then, do we recognize the patient who is developing chronic pain behavior? Probably, the first sign is disturbance of the normal circadian rhythm. Patients with chronic pain tend to spend the day at rest and find extreme difficulty in sleeping at night. There are significant alterations in life-style as well, with withdrawal from normal societal activities, development of dependency, and lack of planning for the future. These patients fail to show progressive improvement as might be expected following injury, and most treatments aggravate, rather than improve, the pain problem. Seldom is the pain confined to the original area of injury or claimed disability, but headaches, muscle pains, difficulty with vision, intestinal complaints and other symptomatology is frequent. They develop an excessive need for analgesic medication and, as has been previously discussed, become drug dependent. Invariably, the suffering is considerably disproportionate to the physical findings. They are totally unable to function, either at home or work, and resort to posturing, groaning, and gait disturbances.

Medical or surgical intervention fails to improve the condition and multiple surgeries are performed to seek the source of the pain, surprising both surgeon and patient when the operation reveals no pathologic condition.

It is essential, then, that the history taking of the patient with chronic pain not be confined to the patient's complaint but should include information on the patient's sociologic and financial problems; occupational likes, dislikes, and requirements; a drug intake profile; and a social history relative to childhood management of pain and family role models for disability. It is essential to define compensation and litigation influ-

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ences as they affect the patient's desire or ability to return to gainful employment.

Special studies are rarely required, particularly if they have been performed previously in evaluation by other physicians of the patient's disability. There is a great tendency to overread CT scans and any changes on this study must be correlated with the patient's complaints. Psychological testing will seldom reveal the basis for the patient's disability, nor will it single out the "neurotic" patient. The Minnesota Multiphasic Personality Inventory (MMPI) will invariably have elevations of the first three scales (hypochondriasis, depression, hysteria) and other scales may be affected by the individual's desire to either appear worse or better in the eyes of the physician. There are many tests for depression, but it must be assumed that the chronic pain patient will show manifestations of either primary or secondary depression following a prolonged period of disability.

Management

The first and most important steps in the management of the chronic pain patient are a discussion of the pathological findings; the prognosis for eventual improvement; the assessment of coping skills; and an attempt to discover what options are available for the patient.

Next, it is essential to detoxify the patient from all depressant and narcotic drugs, since it is impossible to evaluate pain in the presence of centrally acting medication. It is inadequate to suggest to the patient that he decrease his medication by 10 or 15% on a daily or every-other-day basis and expect the program to be carried out satisfactorily. For each patient, an individual withdrawal program and schedule must be devised. Each day and subsequent days dates should be listed on one side of the sheet and across the top, the dose of each of the drugs to be taken that particular day. Narcotic drugs and depressant medication should be withdrawn approximately 15% of the usual daily intake every three days. It is useful to substitute propoxyphene 65 mg for each 5 mg morphine equivalent that the patient is taking (meperidine 50 mg, oxycodone 5 mg, codiene 65 mg, oxymorphone 1 mg) and 50 mg of hydroxyzine for each 5 mg equivalent of benzodiazepine or other sedative drugs (pentobarbital 100 mg, diazepam 5 mg, flurazepam 15 mg, meprobamate 400 mg) withdrawn. Add nonsteroidal antiinflammatory drugs for musculoskeletal disorders on a regular scheduled basis and tricyclic antidepressants in doses increasing every three to seven days up to a maximal therapeutic level, administered only at bedtime. Detoxification schedules generally require a month for completion, and the patient should be warned that withdrawal symptoms may be discomforting approximately three days after the last dose of the sedative drugs, particularly the benzodiazepines is withdrawn. It it essential on the return visit to determine that compliance with the detoxification schedule has been adequate, since this will provide a measure of compliance with other therapeutic measures.

Nerve blocks with local anesthetics alone may interrupt painful reflex cycles, and where nerve entrapment is present, the addition of deposteroids may be useful. This latter technique is particularly valuable in discogenic disease with radiculopathy, but is of no value with generalized types of pain. Specific nerve blocks are useful for conditions such as the frozen shoulder, reflex sympathetic dystrophy, and for the relief of pain in chronic intraabdominal malignancy.

One of the most important methods of therapy is physical rehabilitation consisting of generalized muscle toning exercises as well as specific exercises for a dysfunctional back or extremity. Swimming, walking, and bicycling should be encouraged. As with medication, exercise and physical activity should be gradually increasing in duration and intensity with all exercises performed to schedule rather than to tolerance. Maintaining levels for three to five days before increasing to a higher level of intensity or duration is essential to avoid muscle soreness leading to abstinence from activity.

An activity schedule will return patients to functioning in society. It is generally recommended that they seek two social activities out of the house per week (meeting with friends, church, theater, family meetings) to reestablish social contacts.

Stimulation, either acupuncture, percutaneous or transcutaneous, has been shown to increase endorphin levels in the spinal cord and thereby relieve pain. The efficacy of placement of electrodes appears to vary with the individual, although their application along major nerve trunks for transcutaneous stimulation would suggest that this may be the most effective method of treatment. The parameters of stimulation, that is, frequency and pulse width, do not seem of

great importance and the patient should adjust the stimulation parameters to those he finds most comfortable. Stimulation is probably most effective in denervation dysesthesias, but the dermatomes affected must be bracketed, since stimulation over the involved dermatomes is poorly tolerated.

Neurosurgical procedures for the treatment of pain are no longer in vogue except for their use in the patient with malignancy. In these patients, the most effective treatment is cordotomy, performed by the percutaneous route in the awake patient using radiofrequency current following stimulation of the long ventral tracts. For patients with disseminated cancer, the use of pituitary ablation has been recommended and, in some patients, has provided almost miraculous pain relief, although having little effect on tumor progression.

Traditional analytic psychotherapy is of little value in the management of the chronic pain patient. Psychotherapy should be directed at autogenic training of the patient in relaxation and biofeedback so that autonomic and somatic responses can be controlled. The patient should be informed, and must accept the fact, that he/she is responsible for his/her improvement and that the physician can only suggest methods of treatment. Assertiveness training and discussion with the patient of socioeconomic and financial problems is often helpful in finding resolution of disability without impairment. The family's assistance should be solicited to avoid pain behavior reinforcement and to assist in motivating the patient to further self-improvement.

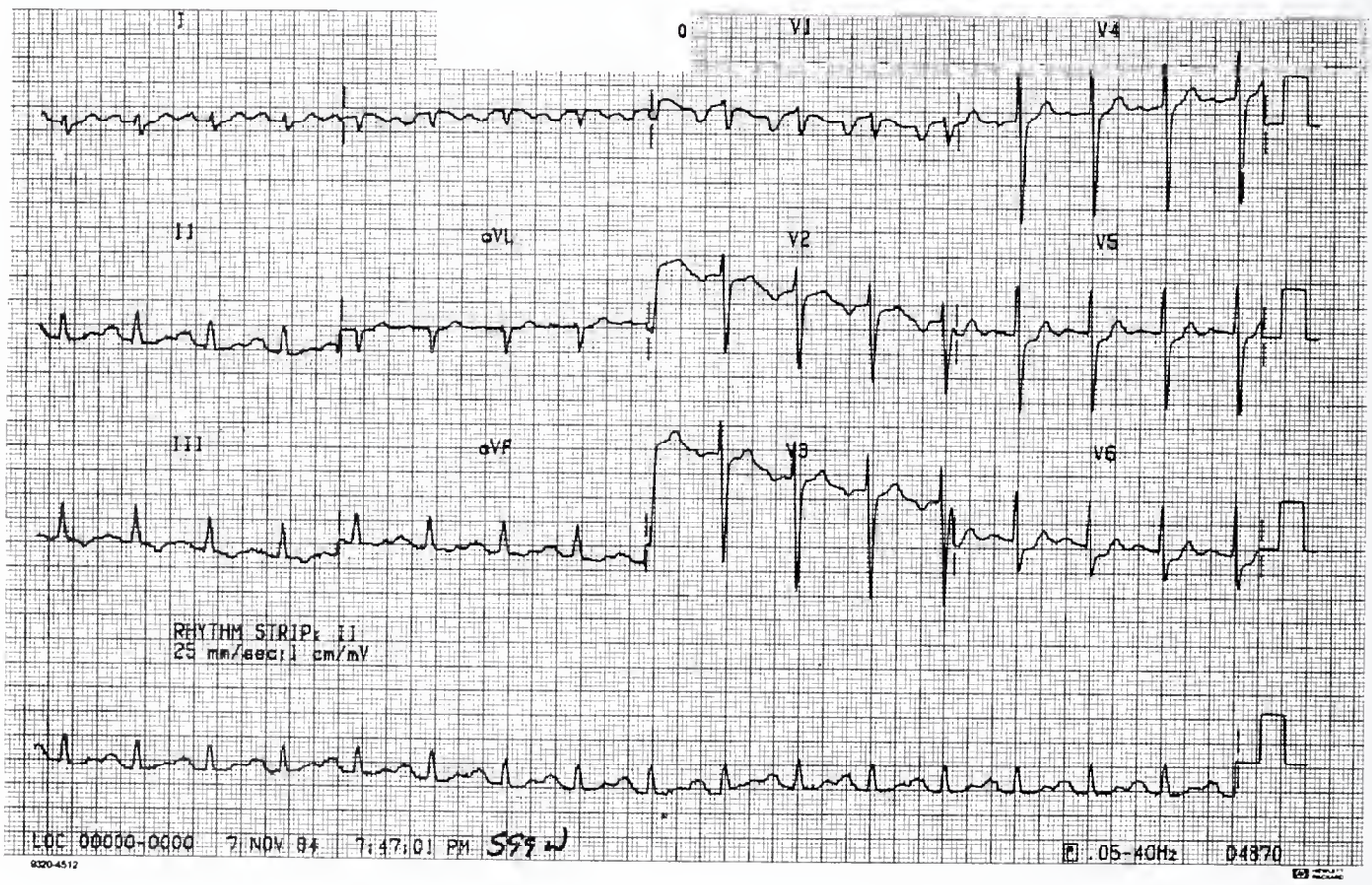
Therapy must be multimodal in treating chronic pain. Modulation of nociception and education in coping strategies will allow the chronic pain patient to decrease drug dependence, limit doctor shopping, and improve the quality of life.

ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer page 435)

HISTORY: F. H. is a 40-year-old woman who has presented to the hospital because of shortness of breath on exertion. She gives a history of having had acute rheumatic fever thirty years previously. A pansystolic murmur best heard at the apex has been present for many years. What do you think of her electrocardiogram?



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Office Orthopaedics

Internal Disc Disruption

Philip H. Johnson, M.D.*

A clinical syndrome represented by severe low back pain originating from a degenerate lumbar disc will be reviewed in this paper. Patients with this very painful condition are puzzling because they do not display any signs of nerve root compression and have negative CT scans and myelograms.

Clinical

The most characteristic symptom is a dull aching low back pain that the patient has difficulty describing. Pain is diffuse and may be referred to one or both legs posteriorly. This is in stark comparison to the unilateral radicular type leg pain characteristic of a disc prolapse. In acute cases there may be a history of lifting trauma. Patients relate that while straining to pick up a heavy object they felt a deep seated burning or lancinating pain. They described a tearing like pain which makes their back feel disconnected. The lumbar motion involved in standing from a seated or recumbent position requires the patient to ever so carefully move in an effort to avoid any lumbar motion. It is usually necessary to roll out of bed in the prone position dropping to the knees before standing. It is then necessary to walk the hands up the thigh. In the chronic stages pain and muscle spasm are less dramatic and more nondescript. Patients may even be labeled as functional or malingerers due to the vague nature of their symptoms.

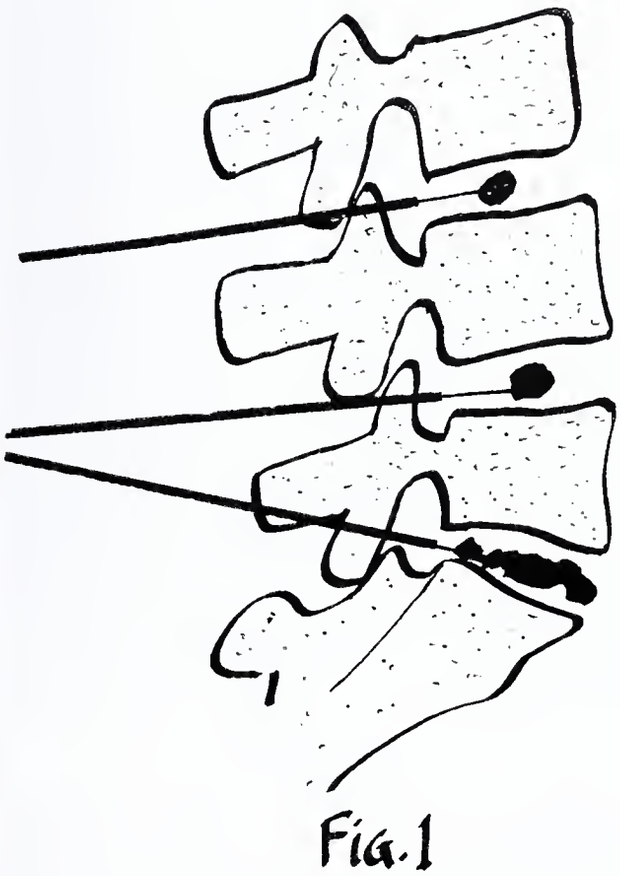


Figure 1.
Discogram at L3/4 and L4/5 is normal. Discogram at L5,S1 is abnormal.

Physical examination in the acute stages may show involuntary muscle spasm or be severe enough to present the clinical syndrome of "lumbago." In the chronic stage, however, there is little or no guarding or muscle spasm. Examination of the lower extremities will show a negative straight leg raising and no sensory or reflex changes. There is also no evidence of muscle weakness. In general the examiner is impressed with the patient's severe apprehension, nondescript pain and negative physical findings.

Routine x-rays of the lumbar spine are usually negative. With more chronic longstanding disc degeneration, some mild narrowing of the disc may be noted. Flexion-extension lateral x-ray of the lumbar spine may show excessixe excursion of one vertebral body on the adjacent one at the involved disc. CT scan of the lumbar spine,

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myelogram and electromyelogram are notably negative. The definitive diagnosis of this condition is made only by discography (Fig. 1). In the lateral decubitus position, needle punctures of the last three lumbar discs are carried out routinely under local anesthesia. Eight centimeters from the midline on the right side, a 6 inch spinal needle is introduced at a 45 degree angle under x-ray image intensification in two planes. The "two needle" technique is preferred. An 18 gauge needle is introduced down to the annulus. An 8 inch, 22 gauge needle is placed into the larger needle and used to pierce the annulus and enter the nucleus pulposus. Renograffin or Amipaque may be used for the injection. Three diagnostic factors are considered. The first is the volume of contrast media accepted. The normal disc will accept less than two ml of dye. A degenerate disc will accept a much larger volume. Second is the radiographic image of x-rays obtained in two planes. With a normal disc the dye will appear spherical in the center of the nucleus. A degenerated disc will allow dye to fill most of the centrum producing a large flat serpentine pattern. The last consideration is the patient's pain response. The key to the diagnosis of this syndrome is the reproduction of the patient's back and leg pain with dye injection.[2] A small amount of dye will produce an excruciating pain described by the patient as being the exact pain which he experiences. This pain may be completely and miraculously relieved by the subsequent injection of ½ cc of 1% Xylocaine into the disc. This will also relieve associated leg pain and muscle spasm for the duration of the anesthetic.

Pathology

Changes in the character of the intervertebral disc with aging are well documented. The nucleus pulposus changes in character from the gelatinous material present in childhood to a firm crabmeat like structure in middle age. This normal process of dehydration may be punctuated by injury to the annulus. Small longitudinal tears occur in the periphery of the annulus and larger radial tears may likewise be produced by lifting and torsional strains on the disc.[4] When these radial tears are directed toward the postero-lateral disc quadrants, it allows passage of softer nuclear material into the spinal canal and may be clinically evident as a herniation (prolapse). However, a significant bulge in the annulus or herniation of the nucleus is not necessary to produce severe low back pain. Crock[2] has postulated the origin of symptoms as coming from three possible sources: first, irritation of adjacent nerve roots from abnormal vertebral motion without disc bulge; second, irritation of structures adjacent to the affected disc, spinal nerves or sympathetic system due to catabolites diffusing out of the disc; third, leakage of disc proteins and catabolites into the general circulation via the vertebral end-plate capillaries. Whatever the source of pain, it is now recognized that a degenerated and/or injured intervertebral disc may produce at times severe low back pain without disc herniation or prolapse.

Treatment

As with any lumbar disc lesion, conservative treatment is always the initial treatment of choice. In acute cases, it is very effective. Probably many cases that have been categorized as lumbar sprains in the past have been small annular tears that have healed without significant consequence. Bedrest and analgesics are the mainstay of this treatment. It is also interesting to note at this point that lumbar traction and/or spinal manipulation may produce an exacerbation of pain in these patients.

Some authors have recommended steroid injection[5] into the damaged disc at the time of positive discography and have reported good results with this and repeated steroid injections. These results tend to be temporary but do substantiate the diagnosis.

In those cases not responding to conservative treatment, surgery may be indicated. The only surgical procedure effective in relieving the pain of internal disc disruption is lumbar fusion. Crock recommends anterior interbody fusion[2] for the treatment of this condition and a modification of this technique has been used in our clinic for the last two years. Posterior interbody fusions, posterior, and posterolateral fusions are effective when properly carried out. Posterior laminotomy with disc excision will usually not relieve the pain. Chymopapain injection is not indicated and will usually produce increased symptoms as a result of marked collapse.

DISCUSSION

Internal disc disruption is a term coined by Crock in 1970[1] to describe this interesting syndrome characterized by discogenic low back pain with a sparsity of physical findings and a negative myelogram. Recently he has written a text that expands greatly on his original report.[2]

Mixter and Barr reported in the *New England Journal of Medicine* in 1934 a rupture of the nucleus pulposus as the source of severe back and radicular leg pain.[12] This report and subsequent research have produced a wealth of knowledge about the intervertebral disc as the source of back and leg pain. Dandy in 1941 reported his experience with the "concealed" ruptured disc.[3] In his series of laminectomies for discogenic back pain he had 28% negative explorations. These usually had negative myelograms and no herniation of the disc was found. A very slight bulge in the disc was sometimes seen and the posterior longitudinal ligament appeared thickened. He referred to these as "concealed" disc ruptures. Kudelka in 1968 reported on his experience with 69 surgical cases for disc disease.[9] In 13 of his patients only a soft bulging disc was found and more than 50% of these patients had no pain relief after conventional laminectomy and discectomy. In contrast pain was relieved in all of 33 patients who had frank herniations, and 27 of these returned to work. He concluded that laminectomy was not a satisfactory procedure for a simple bulging disc and recommended that spine fusion be considered in these patients. In 1937 in the *Annals of Surgery,* Mixter reported 58 cases of herniated disc.[13] In seven additional cases no abnormality was found at the time of surgical laminectomy and exploration, but fusions were performed in these cases even though no disc rupture was found. We have come to appreciate that laminectomy and disc excision where no frank prolapse exists yields a high rate of failure. Chemonucleolysis for these patients likewise is not recommended. It frequently produces marked disc collapse with associated redundancy in ligamentum flavum and annulus and signs and symptoms of spinal stenosis. Laminectomy and chemonucleolysis are indicated in disc disease only for prolapse with nerve root impingement.

Knutsson in 1944[8] and later Morgan and King in 1957[14] outlined well what has been referred to as "lumbar instability." They recommended lateral flexion-extension x-rays to demonstrate excessive motion between two adjacent vertebral segments (pseudospondylolisthesis or retrolisthesis). Knutsson described these initial x-ray findings as the first signs of disc degeneration. Later disc narrowing, sclerosis, and osteophyte formation follow. Friberg and Hirsch[6] found that marked degeneration may be present in the disc without changes in the routine lumbar x-rays. He also recommended flexion-extension studies. Bending films therefore may be an adjunct to the diagnosis of internal disc disruption and may support the conclusions of discography.

Lindblom in 1948[10, 11] recommended diagnostic puncture of vertebral discs in patients with sciatic pain where myelography failed to localize the site of herniation. Hirsch[7] in the same year described his transdural technique for discography and reported sixteen cases of resistant low back and leg pain. All of these patients had negative myelograms. In all sixteen patients, the typical back pain could be reproduced by disc injection at the offending level. The injection of ½ cc of 1% Novocain produced a relief of pain and muscle spasm. In this early report, Hirsch recommended spinal fusion for this problem. In the early 1970's discography was abandoned by most clinicians. They shied away from the transdural approach. Now with image intensification and increasing familiarity with the lateral puncture technique, discography is a practical diagnostic tool. Another problem was that some clinicians attempted to treat a positive discogram with a posterior laminectomy and disc excision. It was appreciated at that time that myelography was a more valuable tool in the diagnosis of disc herniation for which laminectomy was the indicated surgery.

SUMMARY

Internal disc disruption is a very common clinical syndrome manifest predominately by low back pain of discogenic origin. Physical examination is frequently very unremarkable with a complete absence of positive leg signs. The localization of the offending disc can only be made with discography. If the initial conservative treatment is ineffective, spinal fusion is the only surgical procedure indicated.

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Is Home Health Care Cost Effective?*

Ben N. Saltzman, M.D.**

Historically, home health care is not a new concept. Actually, medical care began in the home. Records show that as far back as 400 A.D., 40 Deaconesses were providing organized home nursing care in Constantinople. In 1861, the East London Nursing Society was sending visiting nurses into the home.

The first home care program in the United States was created in Boston in 1796. The history of Public Health really began with Public Health Nursing in this country. Local independent groups would send nurses into the homes. In 1813 a Ladies Benevolent Society was providing home nursing in Charleston, South Carolina. In 1877, the New York Mission sent nurses into the homes of the "sick poor" to nurse the sick and to "save souls." In 1885 a Visiting Nurse Association was formed in Buffalo, New York. In the year of 1912, over 800 agencies sponsored by cities, private societies, hospitals, churches and charity organizations organized the first Public Health Nursing Association whose primary activity centered about the provision of home visits for health care.

Public Health Nursing began in Arkansas with the creation of a State Board of Health in 1879. Arkansas was in the midst of a Yellow Fever epidemic and a temporary board was appointed by the Governor. The Board's first task was to establish quarantine regulations and next to send nurses into homes to care for the ill and console the dying. In 1918, the Arkansas Tuberculosis Association placed nurses in several counties to provide for home care. In 1924, the Arkansas State Department of Health sent Public Health Nurses into 20 additional counties. This process continued until all our counties had county health nurses and were providing home health visits. Today, the Arkansas Department of Health has over 400 Public Health Nurses in the state and provides home health care in 74 counties (all except Pulaski County).

Medicare legislation was enacted federally in 1966 setting standards and providing partial reimbursement for home care under the Home Health Program. A pilot program was initiated in Benton and Ouachita Counties and in 1967 all the county health units, except Pulaski, were certified Home Health Agencies with the Central Office in Little Rock as the Parent Agency. Pulaski County already had an excellent Visiting Nurse Association program ongoing, so a Health Department unit was not needed.

The services of the Arkansas Department of Health Home Health program include skilled nursing in all counties except Pulaski and at least one other service provided by the following: Home Health Aide, Personal Care Aide, Physical Therapy, Speech Therapy and Medical Social Work. In addition, other personnel of the Health Department (nutritionists, pharmacists, etc.) are available for assistance. Equipment in the local health units is also utilized.

Specifically, skilled nursing provides: skilled observation and evaluation of signs and symptoms, teaching self-care to promote independence, assistance with self-administered medication and activity, injections, soaks, irrigations, aseptic dressings, post-operative wound follow-up and care, bladder training, enemas, bowel care, colostomy care, ambulation, therapeutic exercises, gait training, prosthesis care and reports and conferences with physicians regarding plans for care.

Home Health Aides provide personal care. They give baths, change beds, "tidy up" the room, assist with ambulation, take vital signs and take on other responsibilities assigned by the home health nurse.

Physical therapy is available in some counties.

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This is contracted with the Health Department. It is available to give exercises, train muscles, teach ambulation and use of crutches, wheelchairs and canes.

Speech Therapy is available in the form of speech exercises for the patient who because of a stroke or some other cause has a problem with speech or communication. It also provides assistance with laryngectomies.

Medical Social Work is available in all counties. This service can help the patient deal with social and emotional problems or personal difficulties related to his/her health and recovery.

Nursing supplies used in connection with the care of patients are provided in the form of catheters and catheter supplies, wound care supplies, nasogastric feeding tubes and underpads.

Now, how are these services funded? At the present time, the Health Department does not bill the patient directly. The sources for funding are Medicare, Medicaid, Private Insurance, the Veterans Administration and the State of Arkansas. We bill these sources and the patient does not have to worry about it.

The law requires Advisory Committees for Medicare Certification. We have committees for the local units as well as for the State for overall input. Other groups involved are the State Home Health Study Groups for the Facilities Planning Committee of the State Health Coordinating Council (SHCC) and the Legislative Home Health Coordinating Committee.

Now, why do we need Home Health Care? It may seem obvious to most of us, but let's look at the problem. From my experience in private practice, I have always felt that home health care was an extension of my care of the patient. I would be frustrated with the difficulties encountered by the patient in coming to my office, including the stress of having to sit and wait for my services and for the hardships experienced by the families in trying to serve their needs. Prior to the initiation of home health services by the Department of Health, I would be forced to make house calls that would take me away from my patients who were forced to sit and wait for my return to my office. Often in my frustration, I would recommend nursing home care in institutions already overcrowded and afflicted with long waiting lists. Yes, it was of definite advantage to me to have a trained nurse visit my patients and carry out my orders. Psychologically, staying at home usually promoted my patients' healing and comfort.

We are all aware of increasing life expectancy. There has been a dramatic increase in the number of older Americans. Seventy-five percent (75%) of our home health patients are age 65 or over. Actually, forty-nine percent (49%) are 75 or older. Preliminary reports from the 1980 census show that the number of persons 65 and over has grown twenty-seven percent (27%) since 1970. The year 1980 showed that this group made up 11.3% of the population. By the year 2000 this group is expected to increase by 28%. Thus by 1990 life expectancy for men will be 71.9 years and women 80 years.

We are also aware that hospital and nursing home care costs are spiraling. Approximately 25% of our elderly population in Arkansas is at or below the poverty level. Many of the other 75% are only slightly above this level. Medicare payments are limited. Hospital charges are only partially covered by Medicare. Supplemental insurance is expensive and not carried by all elderly people. Nursing home charges are not paid by Medicare except for a limited number of days in a Medicare Certified skilled facility. Of Arkansas' 229 nursing homes, only 7 are Medicare Certified. Medicaid payments for nursing home care is limited to those patients falling within the 25% poverty level group I just mentioned.

A new factor has developed which further complicates the picture. By this time, you have become aware of the DRGs, the Diagnosis Related Groups, part of the new Federal regulations for reimbursement to hospitals. Hospital rates are being set by diagnosis rather than per diem charges. Each diagnosis has a predetermined set of services, length of stay and rate of reimbursement. This will probably lead to earlier hospital discharges with subsequent increase in home health referrals. The DRG system limits hospital stay to only what is absolutely necessary. Home Health Agencies will probably be treating more acute stages of illness. Patients will not be discharged prematurely, but will not be quite as well when they go home. I believe that of necessity, there will be closer coordination between hospital and home care physicians, discharge planners and other home care personnel to meet the needs of the patients.

You are probably aware that there has been a proliferation of home health agencies in recent

years. Some are for profit. Others are non-profit including those that are hospital based, nursing home based and free-standing. We in the Department of Health are no longer alone. Our task is to regulate these agencies to the effect that they are providing the best possible care for their patients.

We feel that Home Health care is a very viable alternative to hospitalization and institutionalization. Children do not abandon their parents. Actually evidence exists indicating that 75% of aging parents have children who live less than 30 minutes away. Their relationship is usually good. Elderly people prefer to stay at home. They prefer to remain in familiar surroundings. They feel more comfortable and have an emotional attachment to their own homes in which they have investments of time, thought and money. They like the freedom to make their own decisions. They have control of their own sleeping, eating, dressing and temperature habits. They are available to visitors at their own discretion and have more privacy. They have more room to keep their belongings. Having their families close by makes it possible to acquire personal care and rehabilitation based upon instructions provided by professionals huch as home health nurses and therapists. They are in a position to continue with their own physicians. Needless to say, part-time home health care is less expensive than nursing homes and hospitals.

New Medicare legislation passed by Congress in 1982 now provides for Hospice care for the terminally ill. This provides for patients with a life expectancy of six months or less. A daily rate of reimbursement for care is set and the total amount of reimbursement is limited. Hospice Home Care is less expensive than hospital care. Hospital care for the hospice patient is $335 to $409 per day. Home Hospice care including medical emergencies is $53 to $286 per day. The higher rates are based on the intensity of care required for hospice patients.

At the present time, the Health Department has not applied to provide care under the hospice program. We do provide care to terminally-ill patients on an intermittent basis in our Home Health Care Program.

There are seven hospice agencies in the state at the present time. They are located at: Little Rock (Baptist Medical Center), Fairfield Bay, Mountain Home, Fayetteville, Hot Springs, Fort Smith and West Memphis.

I have been pleased to see a rapid expansion of the Arkansas Public Health Home Health Program in the past two and one-half years. From a base of 40,000 patient visits in 1981, we have experienced 150,000 visits in 1983. There has been a concommitant increase in personnel to meet the expanding home health needs in the state. We are ready for further increases.

There is no difficulty in obtaining home health services. Anyone can call the local county health unit. A public health nurse makes an evaluation visit. If services are warranted, the nurse will call the patient's physician for orders. If the patient does not have a physician, the nurse will help the family or the patient find one. All home health care is given under physicians' signed orders.

Now let us get back to the title of this talk, "Is Home Health Care Cost Effective?" Based on experience, the cost per patient is certainly less than that of hospitalization or institutionalization. But in the long run, the cost of health care will not be less. Less than 5% of our aged population reside in nursing homes. Not all people who need hospitalization find their way into hospitals for care. More and more people are learning the advantages of home health care and are beginning to utilize the services provided. The result will be a healthier, happier aging population, but the total cost will not be less. Since our purpose is to serve the health needs of our population, the answer is yes, Home Healt Care is Cost Effective.





EDITORIAL

Symposium on Nutrition and Blood Pressure Control

Alfred Kahn, Jr., M.D.

Hypertension remains one of the chief causes of disability and death in the U.S.A. Many lines of investigative work on hypertension are being pursued at the present time.

Among the more interesting studies recently published is one entitled, *"Nutrition and Blood Pressure Control."* It is published as a supplement to the May 1983 issue of Annals of Internal Medicine, and represents a collection of articles given at a symposium sponsored by the National Kidney Foundation, the U. S. Department of Health and Human Services, and the International Life Sciences Institute.

An overview of hypertension was given by N. M. Kaplan who stated that he felt that there was some misunderstanding about high blood pressure in general. He went on to say that he felt that the number of people with high blood pressure was falsely high; he felt that many individuals had elevated blood pressures when first seen by their physicians—but later these individuals reverted and appeared to have perfectly normal blood pressures. Kaplan also felt that physicians were too aggressive in treating hypertensives; his basis for that was that the mortality statistics of treating mild hypertensives did not improve—as compared to patients with hypertension who received no treatment.

E. D. Frohlich discussed "Mechanisms Contributing to High Blood Pressure." He states that there were about sixty million Americans with high blood pressure and that the cause for the hypertension was totally unknown in over 95% of the patients. It was his idea that hypertension was not a homogeneous disease, but a disease with many possible causes, each of which represents some aspect of disordered body function which altered the regulatory mechanism of the vascular tree. His paper was divided into a discussion of the group of the more important factors which influence blood pressure. The hemodynamic aspects of hypertension was discussed; this reflects the interplay of the cardiac output and total peripheral resistance. Although the cardiac output is said to be elevated in the early stages of high blood pressure in many people, it is the increased peripheral resistance that seems to be the main factor; the arterios are involved and he further states that other portions of the vascular tree also may be involved as the post-capillary venules. The adrenergic nervous system plays a significant role in high blood pressure. Adrenergic blocking agents are effective in lowering high blood pressure but the manner in which they do this is not clear. The so-called renopressor system is another cause of high blood pressure in some individuals, but as Frohlich points out in many cases it is not known whether the so-called abnormal renin-angiotensin system disorder is a cause or an effect of high blood pressure. In any event, when this system is activated it seems to cause a vicious cycle which maintains an elevated high blood pressure, according to the author. The renal excretory function plays a role in high blood pressure. The kidney may fail to excrete sodium and water and thus, enlarge the circulating blood volume. There are other aspects of the kidney as an excretory organ inducing hypertension, and this is discussed by the author. He also reviewed briefly hypertension associated with excessive producing of aldosterone which gives a low blood potassium, alkalosis, increased blood volume, and decreased plasma renin levels. Thyrotoxicosis may produce an elevated blood pressure. It is of interest that Frohlich records that patients with hypothyroidism also have an increased frequency of diastolic hypertension; he also states that diseases associated with high ionizable calcium have an increased incidence of high blood pressure. He concludes his article by stating that patients with high blood pressure have an in-

creased sodium sensitivity, faster heart rate and tend to be obese; the blood uric acid is said to be elevated in hypertensive patients more frequent than in patients who do not have high blood pressure. Lastly, diabetes mellitus is associated with high blood pressure and there does not seem to be any obvious explanation for this, Frohlich reports.

In this symposium is an *"Assessment of Nutritional Correlates of Blood Pressure"* by McCarron, Stanton, Henry, and Morris. They did not offer any specific data of clinical interest but they did carefully review the amount of protein, fats, calcium, sodium and potassium in the diets of men and women to use as a base for further studies. They believe, as do the other authors who participated in this symposium, that nutrition plays a sign role in blood pressure control.

One of the really interesting facts discussed in this symposium is the matter of sodium intake and its relationship to high blood pressure. For many years it has been well known that certain individuals with high blood pressure respond to sodium deprivation with a fall in blood pressure. Many practicing physicians have felt that a reduction in the sodium intake was beneficial to all hypertensives. This is not the case.

George Porter, in discussing "Chronology of the Sodium Hypothesis and Hypertension," states as follows: "In spite of the data available, a consensus is lacking on the relevance of applying the link between sodium intake and increased blood pressure in certain hypertensive patients to all persons." In his discussion, Porter states that some investigators have found some links between excessive dietary salt and high blood pressure. He mentions a personal communication from L. Tobian which states that dietary sodium was effective in reducing high blood pressure and seemingly supported the idea that sodium excess might cause high blood pressure; in addition, it is also reported that diuretics support this position, as does the fact that in salt sensitive people, the ingestion of salt causes a rise in blood pressure. The general thrust of the article was that salt did have some relevance in sensitive people with high blood pressure, but beyond that, one could not sustain the salt hypothesis to all hypertensives.

J. C. Hunt also reported on "Sodium Intake and Hypertension: A Cause for Concern." Dr. Hunt feels that salt plays a role in high blood pressure. He feels that salt in the diet often relates to cultural habits, rather than nutritional or physical demands. Hunt makes a point of the fact that certain individuals living in non-industrialized countries tend to be lean and have very little weight gain as they get older; these individuals do not eat much Sodium. He reports that as these nations become more industrialized and their dietary habits change—then, more hypertension occurs. To Hunt, it suggests that sodium in the right mind will play a role.

Louis Tobian, mentioned above, has an article entitled, "Human Essential Hypertension: Implications of Animal Studies." He summarizes his position by stating that a person who was resistant to hypertension because of hereditary endalment can eat a good deal of salt without developing high blood pressure; on the other hand, an individual without this genetic pattern might be susceptible to salt, and if so, salt will precipitate or aggravate high blood pressure.

This same position is taken by Laragh and Pecker, who state that "Sodium deprivation, like other forms of therapy, should be applied only to those patients in whom its effectiveness has been established."

Genest, reports about another facet of high blood pressure—"Volume Hormones and Blood Pressure." He says that there are four major volume hormones which may relate to high blood pressure: Aldosterone, Arginine Vasopressin, inhibitors of Sodium/Potassium ATPase Activity and the Natriuretic Factor from Specific Granules of Atrial Cardiocytes. He says that after reviewing the data on these hormones, is likely that they have their effect in some manner aside from increasing the circulating blood volume. He feels "the mechanism of action of the volume hormones must be through their effect on sodium regulation, intracellular concentration, and the related enhancement of sensitivity and responsiveness of the contractile proteins of arterials."

There are a number of other interesting articles in this same symposium. The final article in the symposium—which was a summary—was by C. W. Calloway who emphasizes that essential hypertension is a heterogeneous disease and because of this the results of treatment programs vary from patient to patient. He states that the data relating nutritional factors to blood pressure is persuasive, but it is yet unproved. He recommends that there be further research between nutrients, food, diets, and blood pressure.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

John Henry McCurry, M.D.

Horace N. Marvin, Ph.D.*

John Henry McCurry contributed a professional lifetime to Arkansas and to medicine. Although an obituary notice appeared in the *Journal of the Arkansas Medical Society* at the time of his death, a biographical sketch seems appropriate as part of this series commemorating some Arkansas physicians.

He was born in Memphis 16 November 1872 according to his grandson, but biographer James Morgan gives the date as 11 November. His father, John Henry McCurry, Sr., died when he was two years old, and his mother remarried and moved to a farm two miles east of Tupelo, Jackson County, Arkansas. He lived there with his mother and stepfather, William Jones, until her death when he was ten years old. Relatives in and around Memphis gave him a temporary home, and it was during this period that he completed grade school at Senatobia, Mississippi, just a short distance south of Memphis. He then returned to Jackson County to attend and graduate in 1893 from the Auvergne High School just north of his old home at Tupelo.

Memphis Hospital Medical School was the only medical school in that city when John Henry was ready to matriculate. It was a proprietary stock company school typical of that era. On the basis of his certificate from Auvergne High School, he was admitted into a school described by Flexner as housed in an excellent building without financial provision for staff and equipment. After two years of only partially graded basic science courses, he advanced to participation in nine one-hour clinics each week at the Memphis City Hospital, administrative cover for the medical school itself. His alma mater later became The College of Medicine of the University of Tennessee Center for Health Sciences. One might wonder why he chose a school in Tennessee rather than the Medical Department of the Arkansas Industrial University. The schools were of the same type and the Arkansas school as well provided. Perhaps Memphis simply was closer to Jackson County, or more probably he could live with Memphis relatives while in school.

Following graduation in 1897, he set up practice in Arkansas, first at Rufus near Newport, then at Credit in Jackson County. Credit was dependent upon the Sedgwick Tie Company's lumber operation, and Dr. McCurry lived in the company commissary. With the closure of the commissary about 1898, he left and with the exhaustion of hardwoods so necessary for railroad ties, Credit dwindled and disappeared. Lured by the chance to buy a hotel in Grubbs, he made the purchase and set up his office there. A fire in 1924 at the hotel terminating his stay there, he moved his family to Jonesboro and set up his office practice in nearby Cash in Craighead County. Here he practiced medicine until retirement in 1967, closing a professional career of seventy years, much of it in "early medicine."

Dr. McCurry was married three times, the first two marriages for tragically short periods of time. His first wife whom he married in 1900 was Cora Loftin, the daughter of Samuel W. and Elizabeth (Denton) Loftin. She died two years later in 1902, having born him a son, Sam. In 1904 he married Bessie Scott of Pitts, Arkansas, who died childless in 1905. Then in 1906, Dr. McCurry married Dora Bertha Barber with whom he had five children; Ruth (Mrs. Ruth Harrison), Helen (Mrs. Helen Burns), Alta (Mrs. Alta Faur), John Henry McCurry (III), and Harry McCurry. The three women are all residing in St. Louis, Missouri. It was to Alta's home that he retired. He continued to be active, and his death at age 106, 4 May 1979, came as a surprise to those close to him. He was buried at Grubbs which may have been more home to him than anywhere else.

Early in his practice he was truly a "saddle bag doctor" travelling by horse, or buggy, or boat to wherever in the county his knowledge and skills were needed. Later fuel for his travels changed from oats to gasoline when he purchased his first automobile in 1914. Among the more routine problems of colds, dyspepsia, pneumonia, consumption, and the setting of broken arms and

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legs, about 3,000 babies were delivered in his seventy years of practice; about five times the present population of Grubbs. Of special interest to him were the cases of malaria endemic to the area, and from these cases carefully observed and from his own bouts with the plasmodium, he gathered material for a book entitled, "Malaria and Its Manifestations." It was published in 1910 and is a book of 170 pages, including an index and references. It sold for a dollar. Also in 1910 he produced another book, "A Book of Practical Points Gathered from Various Sources, Gleaned from Many Minds, with Chapters on Hook Worm and Pellagra." It is a book of 199 pages and also sold for a dollar. A copy of this is in the History of Medicine Collection at the UAMS Library. In addition to these formal works, Dr. McCurry was also a good personal correspondent with his friends and relatives, sending them newsletters, especially on his birthdays, including philosophy, poetry, medical news, and personal status reports. He was an enthusiastic member of organized medicine, extolling continually its contributions and its rewards. As a physician in practice he went "from candledip to television; calomal and quinine to sulfa, penicillin and the mycin's. Went to see patients by walking, horseback, johnboat, mudboat, railroad velocypede (sic) and train." He considered getting his own plane. He considered it foolishness to "moan for the good old days, (he) preferred the present."

Dr. McCurry is known especially for his part in the organization in 1959-60 of the Fifty Year Club of the American Medical Association and its earlier counterpart in the Arkansas Medical Society in 1948, and his service as their secretaries for the years until his retirement in 1967. He received many honors: 1) the first "Golden T" and Certificate of Merit awarded by the University of Tennessee College of Medicine to distinguished alumni, 2) Outstanding Practitioner by the Craighead/Poinsett County Medical Society, 3) Secretary of the First Councilor District Medical Society, 4) President and Secretary of the Craighead/Poinsett County Medical Society, 5) honorary membership in the St. Louis Medical Society on his 102nd birthday, and 6) received the AMA award as a "Pioneer Doctor With More Than 50 Years of Active Service."

ACKNOWLEDGEMENTS

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ANSWER — Electrocardiogram of the Month

DISCUSSION: The electrocordiogrom shows the potient to be in sinus rhythm. The PR interval is prolonged to 0.24 seconds. Her P woves are brood ond notched, being 0.14 seconds in duration and having an intervol of 0.04 seconds between peoks of the P-waves. The P-woves hove strongly negative components from V_1 through V_3. The product of the width and depth of the terminol deflection of the P-wove in V_1 greatly exceeds 0.04 mm sec. Electrocardiogrophicolly, left atriol hypertrophy is suggested. These feotures ore not specific for left atriol hypertrophy, however, ond moy be oll or in port shared by otrial conduction defects or even by right otrial hypertrophy. Some authorities hove suggested that the term "left atriol hypertrophy" os on electrocardiographic finding be replaced with "intro-atrial conduction defect." Nevertheless, in this potient who may well hove chronic mitrol volve disease, the ECG helps confirm thot something is omiss with the atrium.



MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

Slowdown In Health Spending

Americans spent $313.3 billion for personal health care services last year, according to new statistics from the Department of Health and Human Services. When research and construction dollars are added, total U. S. spending for health care amounted to $355.4 billion or $1,159 a person.

This 10.3% increase in total health spending over the prior year was the lowest in a decade and compared with increases of 12.5% in 1982 and 15.3% in 1980. Health care costs in 1983 continued, however, to grow more rapidly than the overall price index (3.8%) and the gross national product (7.7%). As a consequence, health care expenditures now consume a record 10.8% of GNP.

Combined spending by state, local and federal governments for all health care costs was $148.8 billion (or 41.9%) of the total in 1983 while private parties paid $206.6 billion (or 58.1%) of the total. This was a slightly lower share than governments paid in 1982 and slightly higher than the private parties' proportion in 1982.

The shift continued a trend that began in 1980 and occurred despite slight increases in the federal share of the bill. It results from Medicaid and other cuts that have lowered state and local government's share.

Among the private payers, health insurers paid $110.5 billion or 31.9% of all personal health care expenditures. Patients or their families paid $85 billion or 27% of these expenses.

Medicare and Medicaid expenditures amounted to $91 billion in 1983, up from $83 billion in 1982. The $54 billion of this that went to hospitals was one-third of all payments to hospitals and 12.5% higher than the previous year.

Total national spending for hospital care was $147 billion, up 9.1% from the previous year. Federal officials attributed the lower rates of increase to declining hospital admissions and lengths of stay in both the private sector and Medicare—and not to the Medicare's prospective pricing system which did not affect most hospitals until 1984.

Spending for physician services rose from $62 billion in 1982 to $69 billion in 1983. This represented 19% of all health care spending and was an increase of 11.7% compared with a 12.5% increase in 1982.

Nursing home care consumed $28.8 billion of the total health dollars; dental services $21.8 billion; drugs and medications, $23.7 billion; and medical devices and equipment $6.2 billion.

Third parties, including Medicare, Medicaid and private insurers, financed 73% of all personal health care expenditures in 1983. They paid for 92% of all hospital care, 72% of physician services and 44% of other health care.

* * * *

Rate Setting Said To Be Cost-Saving

State rate setting programs in four states where Medicare has waived its regular reimbursement rules to participate in the state program are saving Medicare $1 billion a year, according to projections from the Johns Hopkins Center for Hospital Finance and Management.

The findings were announced at a Washington, D. C., press conference by a new coalition of groups pushing for expansion of similar rate setting programs to other states. The coalition's immediate interest is in assuring continued Medicare participation in the four currently waivered states and publication of regulations that would permit other states to apply for waivers.

Eleven states (Connecticut, Florida, Maine, Rhode Island, Washington, West Virginia, Wisconsin, Maryland, Massachusetts, New Jersey and New York) have some form of mandatory rate setting apparatus but Medicare participates in only the latter four. The Medicare diagnosis related groups (DRG) prospective pricing system applies in all other states.

Congress specified in the DRG law the conditions under which state systems may be exempted from the federal system and several states—including Connecticut, Maine, West Virginia, Washington, and Wisconsin—are expected to apply for waivers. As many as 16 states are likely to consider

rate setting plans next year.

The Administration's failure to issue the waiver regulations some 19 months after passage of the law has tended to confirm rumors that White House budget officers want to squelch these and other waivers in the belief they raise federal costs. A key test will come in late November when a decision is due on a new waiver application from New Jersey.

New Jersey, which pioneered the use of DRGs under a waiver that began in 1980, calculates that continuation of a waiver could have Medicare $126 million over three years. In the first year, however, the waiver is expected to cost Medicare $28 million more than the national scheme would have. New Jersey hospitals have offered to forego one round of Medicare advances to assure that the federal government does not lose money in any year.

Although waiver expirations are not imminent in the other three states, continuation of waivers there was challenged earlier this year by a Federation of American Hospitals study which claimed increased payments in the waivered states were costing hospitals in other states $36 a case. Others have argued that even if rate setting does hold down overall costs, Medicare participation in such plans may raise federal contributions by forcing Medicare to pick up a share of bad debt it has previously avoided.

Although hospital officials in the waivered states have castigated the FAH study and motives, they are under pressure to show that their systems do work and in particular that Medicare will not lose under these systems.

They have thus teamed up with commercial health insurance industry, groups representing the elderly and organized labor to form a new Coalition of State All-Payers Hospital Payment Systems. Members include hospital and rate setting officials from the four waivered states, Blue Cross plans in the four states, the Health Insurance Association of America, the American Association of Retired Persons, the National Association of Public Hospitals and the AFL-CIO.

The new coalition claims that even Medicare saves money under the rate setting plans. The Hopkins study, whose details are being withheld pending publication, projected that if waivers had been in place in all four states for all of 1982 and 1983, Medicare savings would have amounted to about $1 billion a year.

The group also argues that rate setting plans in which all payers participate represent the best hope of dealing with the problem of how to compensate hospitals for care provided to uninsured and indigent patients.

Groups which oppose a federally-mandated all-payer approach are the FAH, the American Hospital Association, the Blue Cross and Blue Shield Association and the American Medical Association. The AHA does favor the state waiver option, however, and the AMA has suggested that rate setting proposals "be examined at the state level."

* * * *

DRGs Inflated, GAO Says

Medicare's diagnosis related groups (DRGs) rates are inflated because the data base used to calculate the rates included excessive payments for respiratory therapy, the General Accounting Office has concluded.

In a study of 33 hospitals that contracted for respiratory therapy services in 1981, GAO concluded that cost reports for 26 of the institutions overstated respiratory therapy costs by an average of 38% and total hospital costs by an average of 1%. Further examination of claims in eight hospitals by medical reviewers indicated that 4.6% of the respiratory therapy services in those hospitals were medically unnecessary.

Because the DRG rates are based on 1981 cost data, the inclusion of excessive payments for respiratory therapy services—which account for about 4% of Medicare payments for inhospital care—resulted in inflated DRG rates, the GAO report said. It advised that Medicare develop programs to audit hospital cost data and utilization "to help assure excessive costs included in the initial DRG rates are perpetuated."

* * * *

HHS Says Medicare Costs Could Be Cut By Multiple Visits

Medicare should have about $1.3 billion over the next five years if payments for physician visits to patients in hospitals and skilled nursing homes were reduced when the physician had made "multiple visits" in a single trip to the institution.

That is the finding of a study by the Inspector General of the Department of Health and Human Services who wants the department to ask Congress for permission to implement this reimbursement change. The Health Care Financing Administration refused to act on the recommendation but agreed to study it as part of the overall

issue of physician reimbursement.

Essentially the IG's recommendation would extend a concept that since 1970 has paid physicians billing for a "multiple visit" at an ICF about $3 per visit less than for a visit to a single patient in the facility.

If the "multiple" visit billing reduction were applied only to patients in skilled nursing facilities, Medicare could save $139 million over five years, the report estimated. Application to hospital visits as well would have another $1.2 billion.

* * * *

Hospice Bill Passed

Legislation to increase payments for home care services provided to Medicare hospice patients received final approval by Congress in its waning days.

The bill, which the President has until November 9 to sign or veto, would restore the home care payment to the $53.17 a day the Department of Health and Human Services initially proposed but later lowered to $46.25. The Congressional Budget Office estimates that the just-enacted increase will increase Medicare spending by "no more than $1 million" in fiscal 1985.

The Congressional action followed several studies that found that few hospices were signing up for the Medicare hospice program and that many cited inadequate home care rates as the rationale for nonparticipation.

* * * *

President Vetos NIH Authorization Bill

President Reagan this month vetoed a bill that would have made several important changes in the structure and management of the National Institutes of Health (NIH), thus delaying for another session of Congress any plans to create a new arthritis institute, nursing institute, and numerous other small disease commissions.

In a statement accompanying his veto of S 540, the Health Research Extension Act, the President contended that the bill created unnecessary and expensive new organizations, required overly specific management requirements, and went far beyond its mission by rewriting all relevant statutes of NIH.

President Reagan said his veto will not affect NIH funding for FY 1985, since money to support the institutes was included in another spending bill, already passed and signed.

The structural changes, which were the first major attempt in years to alter the way NIH does business, would have created:

★ an Arthritis Institute, to focus increased attention on the joint and connective tissue disorders that afflict 40 million Americans;

★ a Nursing Institute, which would have linked nursing research closer to the mainstream of scientific investigation in other health care disciplines; and

★ fetal research provisions, including a moratorium on the government's ability to waive risk standards for certain types of fetal research thus restricting experimentation in this area.

★ guidelines for the proper care and treatment of animals used in biomedical and behavioral research, giving NIH the authority to revoke funding if a lab failed to meet the guidelines.

A veto had been urged by NIH director James Wyngaarden, M.D., officials at the Department of Health and Human Services, and the AMA.

* * * *

Reagan Kills Manpower Bill

Carrying through on an earlier threat, President Reagan has vetoed an omnibus bill reauthorizing health professions assistance, nurse training, the National Health Service Corps and community health centers.

In his veto message, the President said the measure would have "continued and increased obsolete federal subsidies to health professions students" at a time when the "surplus of physicians has reduced the need for federal financial incentives."

The message also noted, however, that a continuing resolution approved by Congress just before adjournment "provides adequate authority for the continuation" of the programs in the vetoed bill. In fact, the President's veto is expected to make little difference to the current operation of the programs which with or without the veto were to be funded at FY 1985 appropriations levels.

The veto will force Congress to reconsider the manpower programs again next year, however, and it signals a new battle to limit federal support of manpower programs and give the White House greater control over their funding.

Congressional committees had anticipated a veto during their later deliberations on the manpower measure and had made several cuts in funding authorizations in an attempt to stave off the veto. Total funding for all the reauthorized programs in fiscal 1985 was about $740 million,

with about $158 million of that allocated to health professions assistance. The measure also included a study of Rep. Ron Wyden's (D-OR) proposal to have the Public Health Service give technical assistance to groups that collected and interpreted health care data.

The White House had also sought to replace current categorical grants with an omnibus authorization to be divided up at the discretion of administration officials. This Office of Management and Budget proposal had never been formally introduced as legislation but Reagan cited the continuation of "the rigid and categorical framework" of health professions grants as one reason for his veto. He also claimed that the reauthorization funding levels ($2.4 billion through 1987) were still far in excess of his budget request ($1.7 billion).

* * * *

White House Also Nixes Technology Council

In a tersely worded message to Congress, President Reagan warned that he would not request funding for the new Council on Health Care Technology, a quasi-private clearinghouse for technology assessment.

Although Reagan signed S 771, which authorized the Council, he noted "strong objection" to the constitutionality of the group.

Under the bill, passed earlier this month by Congress, the Council would collect information about specific health care technologies, promoting some and discouraging others. It would be composed of members chosen by the federal Department of Health and Human Services and the private National Academy of Sciences, including federal officials, members of the general public, and representatives of the fields of medicine, law, ethics, economics and management.

Reagan contended that the council would mix governmental and non-governmental, executive and legislative elements "in a manner which is inconsistent both with the constitution and with sound government practices."

Because the Council would perform government duties, it is unconstitutional for its members to be selected by a nongovernmental agency, he noted.

The President asked Congress to go back to the drawing board, revamping the structure and function of the Council. Until such remedial legislation, he will refuse to ask for funding in his January budget. However, Congress could override this deferral, if it wished.

* * * *

Non-A Non-B Hepatitis Virus Found

Food and Drug Administration scientists have identified a third virus of hepatitis. Until now this was called non-A non-B since it was known that the virus not either hepatitis A of hepatitis B virus. Until now, however, there has been no way to identify it. The new virus turns out to be a member of the retrovirus family. Such agents are now under intensive study because of their potential for effecting subtle but potentially serious changes in the immune system. One such retrovirus has been identified as the cause of the acquired immune deficiency syndrome, for instance, while others play a role in the development of human leukemias. The retroviruses are so-called because they have an enzyme called reverse transcriptase. This enables DNA to be assembled from an RNA template—the reverse of earlier classic thinking which had held that only DNA could make RNA.

The importance of the latest finding is that it will make possible a test to eliminate non-A non-B hepatitis from blood transfusions. Currently about 90% of post-transfusion hepatitis is caused by this new-found agent.

* * * *

Cuts Threaten Medical Education, Congress Finds

Cost-cutting pressures among businesses, health insurers and the federal government are threatening the current method of funding medical education in the U. S. and could lead within just a few years to a situation in which the number of medical school graduates greatly exceeds the number of residency slots available to them.

This frightening possibility, raised at a Senate Finance health subcommittee hearing, is leading to a reassessment of the way graduate medical education is paid for today. It has led some, including subcommittee chairman Sen. David Durenberger (R-MN), to propose replacement of the present system, which is largely financed through patient care revenues, with an explicit public subsidy for medical education.

Many of those most intimately involved in medical training, including the American Medical Association, the Association of American Medical Colleges and the American Hospital Association, view such explicit federal funding as susceptible to political whim, however. They believe this type of subsidy would lack the stability that at

least until recently had characterized the present funding method.

The issue came to the forefront during the development of Medicare's prospective pricing system and a recommendation by a Medicare advisory council calling for the "orderly withdrawal" of Medicare from the financing of medical education.

Durenberger, who plans a series of hearings on medical education, introduced legislation shortly before adjournment to replace the Medicare payment for the direct costs of medical education with a grant program.

At an opening hearing in early October, he said he believes the current reimbursement policies: result in some states' citizens paying to educate physicians who move to other states; may be providing a greater depth of knowledge than necessary; may encourage overproduction of surgeons and hospital-based specialists; can no longer be afforded by Medicare; and will also be rejected by the private sector as competitive plans such as preferred provider organizations steer members away from expensive teaching hospitals.

In view of these concerns, Durenberger predicted, the "direct graduate medical education pass through, as we know it, will be eliminated within two years, and the indirect adjustment for medical education expenses will require refinement." He called for "explicit government policies" to determine "who will take responsibility for graduate medical education and how much will we pay for it."

In defending the current financing arrangement, witnesses generally agreed that patient revenues have provided the dependable financing necessary to assure residents of the continuation of a training program throughout its three to seven year duration. They emphasized that the medical education allowance buys more than the training of health professionals, said it is impossible to completely separate the costs of medical education and patient care, and advised that even a better measurement of severity will not completely explain the higher costs associated with teaching hospitals.

All the witnesses urged that Medicare funding of medical education not be abandoned "precipitously" and both the AMA and the AHA stressed that some Medicare funding will continue to be necessary.

* * * *

"Bad Docs" Bill Fails

Legislation to expand the federal government's authority to act against physicians disciplined by state medical boards or by Medicare or Medicaid will have to await action in a new Congress if it is to become law.

Rep. Henson Moore (R-LA) who introduced the measure (HR 5989) in the House had hoped to see it enacted prior to a scheduled October 5 adjournment of this Congress. Moore was able to push the bill through the House Ways and Means Committee, of which he is a member. A plan to take the measure directly to the floor of the House was thwarted, however, when the Energy and Commerce Committee refused to waive its jurisdiction and permit the bill to come up for a vote without action in the Commerce committee.

* * * *

Medicare Changes January 1

Medicare's more than 30 million beneficiaries will be required to pay a deductible of $400 each time they are hospitalized next year. The new deductible, which takes effect January 1, is a 12.4% increase over the current $356 deductible.

Other Medicare coinsurance rates based on the deductible will rise accordingly. The premiums the recipients pay for Part B coverage of physician services will also rise—from $14.60 a month to $15.50 a month.

* * * *

Congress Forwards HHS Appropriations Bill

Although it exceeds his budget request by some $5 billion, President Reagan is expected to sign a $104.6 billion appropriations measure that includes $79.6 billion for programs within the Department of Health and Human Services. Funding for HHS programs, which will increase by nearly $6 billion, includes:

★ $410.5 million for the Centers for Disease Control and $5.15 billion for the National Institutes of Health.

★ $922.6 billion for the Alcohol, Drug Abuse and Mental Health Administration, including $490 million for the mental health block grant and $196.2 million for mental health research.

★ $234.5 million for training of physicians, nurses and other health professionals.

★ $75 million for the National Health Service Corps field service and $360 million for community health centers.

★ $478 million for the maternal and child health block grant.

★ $16.3 billion for federal Medicaid grants to states and $17.9 billion for physician and other services covered under Medicare Part B. Medicare Part A is not included in the appropriations bill because it is funded through Social Security trust funds. Some $2.1 million will be taken from the trust funds to finance the Prospective Payment Assessment Commission.

* * * *

Organ Transplant Bill Enacted

With storybook style, Congress came to the rescue of the nation's beleagered organ transplant system, pulling it to its feet with over $31 million in grants and two major task force reports.

It was not without last-minute hesitancy: faced with a deadlock, they deleted controversial provisions that would have paid for cyclosporin and restricted transplant procedures to eligible patients, physicians, and hospitals.

Nonetheless, their agreement — passed by the House on October 3 and the Senate on October 4, then signed by President Reagan later in the month — represents a major effort to close the gap between federal law and new medical technologies.

The bill has four major provisions:

—a report on the safety, efficacy, cost and reimbursement status of the immunosuppressive medications that prevent organ rejection, to be presented to the Department of Health and Human Services within 7 months for further action;

—an analysis of medical centers now performing transplants to determine whether they are under or overabundant, well-distributed around the country, and accessible to the public, to be released to HHS within 12 months for further action;

—$25 million in grants to support the planning, establishment, and expansion of organ procurement organizations; and

—$2 million a year to set up a 3-year national Organ Procurement and Transplantation Network, which would match organ donors and recipients.

Also included is a measure that outlaws the buying and selling of organs, except replenishable tissues such as blood or sperm.

* * * *

Anti-Quack Campaign Launched

A national public information campaign was launched in October to combat the bogus health devices and drugs that cost consumers an estimated $10 billion every year.

More than 4,500 advertising agencies and 1,000 health care companies have been asked by the Food and Drug Administration to enter an advertising contest to warn the public about the hazards of "miracle" weight reducers, arthritis and cancer cures, baldness remedies, phony sex aids, bust expanders, and fake "fountains" of youth.

The three best submissions will be selected to appear on television, on radio, and in national newspapers and magazines. Contenders are asked to volunteer their efforts, but a $170,000 fund created by 20 drug companies will help offset other expenses.

The contest is supported by the AMA, the American Pharmaceutical Association, and the National Council of Better Business Bureaus.

* * * *

DES Compensation Ruled By Supreme Court

The drug companies that manufactured the drug diethylstilbesterol (DES) must share the cost of compensating victims of their product, according to a state court ruling upheld in October by the U. S. Supreme Court.

The high court justices, without comment, refused on October 1 to hear an appeal by E. R. Squibb and Sons, Inc. of a Wisconsin supreme court ruling that all manufacturers should be held responsible for damages caused by the drug.

The 1,000 victims of DES who have filed suits have been frustrated in their efforts to collect damages, because they cannot prove the origin of drugs taken 20 to 30 years ago.

* * * *

Drug Warnings Upheld

Drug companies must warn physicians and patients about the dangerous side effects of its products, according to a state court ruling upheld this month by the U. S. Supreme Court.

The high court justices, without comment, refused to hear a challenge to a Kansas court decision by Ortho Pharmaceutical Co. The company argued that it was not bound legally to warn doctors or patients of rare side effects caused by the contraceptive pill.

Carol Lynn Wooderson of Lawrence, KS, suffered hemolytic uremic syndrome after taking Ortho-Novum 1-80 between 1972 and 1976. As a result, she underwent two kidney transplants, intestinal surgery, and cataract surgery for problems caused by the drug.

Wooderson was awarded a total $4.7 million settlement, with $2 million for suffering and medical expenses, and another $2.7 million in punitive damages against Ortho.

In the ruling upheld by the Supreme Court, the Kansas court said that drug manufacturers have a duty to warn "the medical profession of dangerous side effects of its products which it knows, has reason to know, or should know." Ortho should have listed the kidney disease on the package as a "suspected side effect," it said.

* * * *

Most PROs Signed In October

With the PRO program pushing up against a November 15 deadline for implementation, federal officials at the end of October had signed contracts with PROs in 51 of 54 states or territories. Idaho, Hawaii and the Pacific Islands remained without a contract.

In Idaho, Health Care Financing Administration officials were pursuing a contract with the Medicare intermediary after a breakdown in negotiations with a subsidiary of the Idaho Medical Association. The intermediary, Blue Cross of Idaho, had reluctantly agreed to take the contract after attempts to assign Idaho reviews to a neighboring-state PRO failed. Staff of the medical association was to meet with federal officials before the contract with Blue Cross was finalized.

The Hawaiian and Pacific Islands contract had been expected to go to the California PRO contractor, California Medical Review, Inc. Snags were developing in those discussions, however, and the intermediary there (Blue Shield of Hawaii) had been alerted that it might be expected to assume the review responsibility.

The law specifies that hospitals which have not signed contracts with PROs by November 15 will not be paid by Medicare. In some states where the PRO contract was only recently awarded, negotiations between the PRO and hospitals have not been completed. Federal PRO officers have agreed that only those hospitals which are refusing to sign contracts will not be paid.

The officials still expect that contracts will have been awarded in all states by November 15. The bulk of contracts have gone to professional standards review organizations, coalitions of PSROs, or groups that subcontracted with PSROs. About 40 contracts will involve a PSRO.

Nine medical societies (Maryland, Indiana, Missouri, Nebraska, New York, North Carolina, Oklahoma, Texas and Virginia) put together winning PRO bids. Medical societies in Michigan, Florida and California lost out to other bidders. The Florida Medical Association is protesting the award in their state; California had protested the bidding process but had not pursued the protest after the award was made to CMRI.

* * * *

Other Washington Happenings In October

★ Congress approved and President Reagan signed a bill that will help resolve claims for veterans' benefits based on exposure to herbicides or radiation.

★ The Senate refused to ease restrictions on federal funding of abortions for poor women, voting 54 to 44 to offer assistance only when the mother's life is at stake.

★ Congress approved a study of the feasibility of developing a "safe" cigarette that would not ignite upholstered furniture or mattresses. The bill signed by President Reagan, requires an interim report within a year and final report within 2½ years.

★ A National Institutes of Health advisory committee rejected a proposal to ban experiments in which genes are transferred from one animal species to another.

★ Food and Drug Administration advisory panel recommended that the injectible contraceptive Depo Provera not be approved for sale in the U. S.

★ The Supreme Court agreed to decide whether states may require companies to provide mental health benefits in their employee plans.

★ A National Institutes of Health concensus conference concluded that most uses of fresh frozen plasma (FFP) are unwarranted and may place the patient at risk of viral hepatitis or AIDS.

★ Edward N. Brandt Jr., M.D., announced his resignation as Assistant Secretary for Health at the Department of Health and Human Services (HHS) to become Chancellor of the University of Maryland at Baltimore in 1985.

★ Army Surgeon General Bernhard Mittemeyer, M.D., announced that he will leave his position in early 1985 to become vice president and medical director of a Los Angeles-based medical management firm.

★ John W. Ditzler, M.D., was selected as the new chief medical director of the Veterans Ad-

ministration, succeeding Donald L. Custis, M.D.

COUNCIL MINUTES
October 28, 1984

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, October 28, 1984, in the Camelot Inn, Little Rock. Present were: Lawson, Wilkins, Burge, Crow, J. Kolb, Rodgers, Osborne, Lytle, P. Bell, Hestir, L. Langston, Wallick, Sanders, Warren, Armstrong, Bracken, Clardy, Jouett, Logan, Morgan, Purdy, R. Langston, Lilly, Phillips, Chudy, Townsend, Saltzman, Verser, P. Kolb, Robert Benafield, Milton Deneke, Mr. Steve Schexnayder, Mr. Mitchell, Mr. Wroten, Mr. LaMastus, Miss Richmond and C. C. Long.

The Council transacted business as follows:

1. The minutes of the August 19 meeting of the Council was approved as written.
2. The Building Committee requested official approval for Flake and Company to be the developers of the building project. The Council voted approval.
3. Lloyd Langston reported for the Building Committee. He read a list of proposals for consideration of the Council. The proposals were then presented individually for a vote of the Council:
 (1) Approval of the purchase of Lot 2, Corporate Hill Subdivision, Little Rock, Arkansas, for $327,571.
 The Council voted unanimous approval.
 (2) Approval of Blass, Chilcote, Carter, Lanford and Wilcox as the architectural firm to handle the project, with William Gasken as the principal architect, at a fee of 4.5% of the cost of the building shell.
 The Council voted unanimously to approve the recommendation of the committee.
 (3) Approval of Kinco Construction Company as the general contractor for the building project at a fee of approximately 5% of the building construction cost.
 The Council unanimously voted approval.
 (4) Approval of allocation of $250,000 to the building project to be made available immediately and to be dispersed as approved by the Executive Committee of the Society.
 The Council voted unanimous approval.
 (5) Recommendation that the Building Committee be authorized to review, negotiate, and secure interim financing as needed to cover land purchases, construction and consultation. All proposals will be presented to the Executive Committee for approval. The final financial plan will be presented to the Council for review and approval prior to implementation.
 The Council unanimously voted approval.
 (6) Recommendation that Mr. Tom Overby be engaged to act as a special consultant concerning tax matters and financial planning for the project, working with the Society's legal counsel, Mr. Mitchell, and the developer, Flake and Company, as needed.
 The Council unanimously voted approval.
 (7) Dr. Langston requested clarification from the Council on authorization for signing contracts and other documents concerned with the building project after approval by the Council.
 The Council directed that all contracts and documents be signed by the president of the Society, attested to by the secretary of the Society, with approval of the chairman of the Building Committee.
4. Warren moved that the chairman's meeting agenda be copied and distributed to members at Council meetings. The Council so voted.
5. Chairman Lawson reported that physicians had accepted appointment to the DURbase committees of the Arkansas Pharmacists Association as follows:
 Therapeutic Review Criteria Committee:
 A. D. Hall, Little Rock
 Area Drug Utilization Review Committees:
 Beuford Durmon, Fort Smith
 Leonard Kemp, Paragould
 Thomas Pullig, Magnolia
 Forrest Miller, Little Rock
 The Council approved the appointments as proposed by Chairman Lawson.
6. Chairman Lawson announced that he had selected the following additional physicians for appointment to the Cost Effectiveness Committee:

Robert Fisher, Fort Smith
Clinton Melton, Blytheville
Robert Clark, Hot Springs

The Council approved the appointments.

7. The Council approved actions of the Executive Committee taken during a conference telephone call on August 28, 1984, as follows:
 1. Voted to schedule the Winter Meeting on Sunday, December 16th.
 2. Voted to have the next Council meeting on Sunday, October 28.
 3. Voted to pay the expenses of Dr. Milton Deneke, Chairman of the Public Relations Committee, to attend the American Medical Association Communications Seminar, October 1-2, 1984, Asheville, North Carolina.
 4. Discussed the Constitution and Bylaws submitted by the medical students. The Executive Committee voted to issue the charter to the medical students and to change one word in the title from "Section" to "Component," and the title would then read "Constitution and Bylaws of the Arkansas Medical Society—Medical Student Component."
 5. Approved the appointment by Chairman Lawson of Dr. Morriss Henry to serve on the Arkansas Insurance Department Committee to review and recommend legislation to regulate alternate delivery of health care.
8. Milton Deneke, chairman of the Public Relations Committee, reported on activities of his committee. He reminded members of the Council to submit nominations for the Shuffield Award for recognition of outstanding service by a layman. He reported that response to the seminars for physicians and their office personnel had not been as good this year and the committee is considering the possibility of not scheduling seminars for 1985.
9. The Council approved appointment of John Crenshaw of Pine Bluff as vice chairman of the Medical Services Review Committee.
10. The Council approved a proposal that a committee be appointed from the Medical Services Review Committee to prepare operating guidelines for the review committee.
11. Joe Verser, secretary of State Medical Board, reviewed for the Council proposed revisions in fees for licensure by the Board. There was no Council action.
12. Ralph Joseph of Walnut Ridge was elected to fill the vacancy in the office of the third vice-president of the Society.

The Council voted to consider the remainder of the agenda in Executive Session with the Society legal counsel in attendance. Minutes of the Executive session are recorded separately.

APPROVED: J. Larry Lawson, M.D.
Chairman of the Council

Our legal counsel, Mr. Mitchell, gave a report on the status of Mr. Gibson's filing for incorporation of "Arkansas Medical Society." Mr. Mitchell reported that he and others representing the Arkansas Medical Society had met again with the judge. Now the judge has given Mr. Gibson thirty days to find a new name or their charter will be revoked. Mr. Mitchell feels that the matter is over.

Mr. Mitchell also gave a report on our lawsuit by Mr. Schaefer. Mr. Mitchell reported that there were several questionable elements pertaining to Mr. Schaefer's employment by the Medical Society and by the Arkansas Foundation for Medical Care. Specifically, his retirement plan. It is questionable if Mr. Schaefer carried out his duties correctly. He may have not made a clear disclosure on the plan. Mr. Owens was never present at a Council meeting for explanation and disclosure. Mr. Owens had stated that he thinks he was specifically excluded from these explanation and disclosure meetings.

The fringe benefits in Mr. Schaefer's contracts were included on the retirement plan. Also, the Foundation's compensation to the Medical Society was included in determining the retirement income. Also, the retirement plan from the Foundation included this income. This may not have been correct action taken by Mr. Schaefer in setting up his plan.

Mr. Mitchell asked for direction and guidance by the Council as to what specifically to do. Motion by Dr. George Warren, seconded by Dr. Paul Wallick, that Mr. Mitchell address these questions and file an answer and counterclaim based on the breach of fiduciary duty possibly amounting to fraud. Motion passed.

The Budget Committee Chairman, Dr. John Hestir, gave the budget report. There was much discussion, along with much expression of displeasure, with this budget report. Several possible

solutions were proposed, none of which were in the form of a motion. However, there was a strong feeling expressed that since doctors could not raise their fees it was felt to be quite unfair that the employees should get very much of a raise. Motion by Crow, seconded by Wallick, that the following action by the Council be taken in regard to this budget report.

1. The clerical employees at Fort Smith receive no increase in salary for the coming year. (This notification to the employees should include an explanation as outlined above.)
2. That Mr. LaMastus and Wroten receive a 10% increase in their salaries.
3. That Dr. Long's salary be established at $65,000.

There was a substitute motion then introduced by Dr. Jim Kolb, seconded by Dr. Jim Lytle, that the above motion be retained in its entirety except that Dr. Long's salary be established at $80,000 per year. The substitute motion failed. The original motion passed. Motion by Dr. Logan, seconded by Dr. Purdy, that Leah Richmond's salary remain the same. Motion passed. There was further discussion on the budget report pertaining to other items. Motion by Lilly, seconded by Clardy, to accept the remainder of the budget report as is written except that portion where it is recommended that the dues be raised. This portion will be tabled until the next Council meeting. Motion passed.

Approved: Asa A. Crow, M.D.
Immediate Past President



PERSONAL AND NEWS ITEMS

COUNTY OFFICERS ELECTED

Dr. Russell Webster of Batesville is the newly-elected president of the Independence County Medical Society. Other officers ar Dr. John Lambert, vice-president; Dr. E. J. Jones, secretary-treasurer; Dr. Bob Walton, delegate to the State Medical Society; and Dr. Henry Day, alternate delegate.

RECEPTION FOR DR. FISHER

Dr. and Mrs. Timothy Fisher were welcomed to Newport with a reception.

DR. PEARSON ON PANEL

Dr. Richard Pearson of Rogers was a panel member for a program on "Current Financial Issues in Health Care" sponsored by St. Mary-Rogers Memorial Hospital.

CAMP ALDERSGATE AWARDS

Dr. Kelsy Caplinger, chairman of the Board of Directors of Camp Aldersgate, recently made presentations to people honored by the Board for their services to the Camp. Among those receiving awards were Dr. Martin Fiser and Dr. Whit Hall of Little Rock.

DR. MILES ELECTED TO FELLOWSHIP

Dr. Richard W. Miles of Rogers has been elected to fellowship in the American College of Physicians.

NEW SURGERY FELLOWSHIPS

The American College of Surgery has announced the names of new Fellows of the College. Among them are: Dr. John R. E. Dickins of Little Rock, Dr. R. Scott Fergus of Osceola, Dr. William K. Flake of Berryville, Dr. John S. Lambert of Batesville, Dr. Robert W. Lehmberg of Little Rock, Dr. Ralph E. Ligon of Pine Bluff, Dr. Edward C. Loebl of Little Rock, Dr. Charles D. Mabry of Pine Bluff, Dr. Daniel L. Mollitt of Little Rock, Dr. W. P. Phillips of Fort Smith, Dr. John M. Ransom, Jr., of Little Rock, and Dr. B. Michael Smith of Jonesboro.

DRS. DENSON AND WARREN ON BOARD

Dr. Dillard Denson of Little Rock and Dr. George Warren of Smackover were elected to the Board of Directors of the Arkansas Chapter, National Multiple Sclerosis Society at its recent meeting in Little Rock.

During the meeting, Dr. Dennis Lucy of Little Rock and Dr. Denson served on a panel for discussion of needs for the multiple sclerosis patient.

DR. NORTHCUTT APPOINTED TO BOARD

Dr. Carl Northcutt of Stuttgart has been appointed to the Foundation Fund Board of the University of Arkansas for Medical Sciences.

DOCTORS ELECTED TO BOARD

Drs. O. D. Brown, Kevin Carlson and Frank Daniel of DeQueen has been elected to the Board of Trustees of the Community Hospital of DeQueen.

DR. YOUNG SPEAKS

Dr. William Young of Jonesboro spoke at a recent meeting of The Mother's Club. Dr. Young spoke on reconstructive surgery.

CANCER SOCIETY OFFICERS

Dr. Richard McKelvey of Clarksville is the newly-elected president of the Arkansas Division of the American Cancer Society. Dr. Alonza Williams of Little Rock and Dr. Ishmael Reid of Pine Bluff are new members of the organization's Board of Directors.

DR. BERGER IN BATESVILLE

Dr. Merton Berger, a Psychiatrist, has joined the staff of the North Arkansas Human Services System and the Batesville Psychiatric Clinic.

DR. BERRY SPEAKS

Dr. Robert Berry of Little Rock was guest speaker at a meeting of the Morrilton Lions Club. Dr. Berry spoke on the Eye and Kidney Bank in Little Rock.

FORUM SPEAKERS

Dr. Ed Barron of Little Rock led a program on headaches sponsored by the Baptist Medical Center. Other participants were Drs. Gene L. France, Warren Douglas, Ernest Clifton, Jerry Carter, Bob Banister and Nancy Snyderman.

DR. WILLIAMS IS SPEAKER

Dr. Alonzo Williams of Little Rock spoke on the "State of Affairs of Minorities in Arkansas—Age of Enlightenment" and led a workshop on "Colon/Rectal Cancer" at the First Summit of State and National Leaders. The Conference on "Meeting the Challenges of Cancer Among Minorities" was sponsored by the Minority Involvement Committee of the American Cancer Society.

DR. LANG SPEAKS

Dr. Nicholas Lang of Little Rock spoke at a cancer seminar sponsored by the Helena Hospital and the American Cancer Society.

RECEPTION HONORS HERGENROEDERS

Dr. and Mrs. Paul Hergenroeder were guests of honor at a reception held at Harris Hospital in Newport to welcome them to the community.

ROBINSON ENDOWMENT

Dr. Guy Robinson of Dumas and his family have endowed an ecumenical lecture series at the First United Methodist Church of Dumas.

DRS. STECKER

Drs. Elton Stecker and Rheeta Stecker of Hot Springs were directors for a seminar focussing on the fundamentals of understanding stress sponsored by the Seventh-Day Adventist Church.

PHYSICIANS CERTIFIED

Arkansas physicians who have been recertified by the American Board of Family Practice are: Dr. Robert E. Holder of Bentonville, Dr. James Armstrong of Ashdown, Dr. Jerome H. Luker of Dardanelle, Dr. Robert O. Lawrence of Jonesboro, Drs. Charles H. Weber and Rodney L. Griffin of Magnolia, Dr. C. R. Cole of Blytheville, Dr. William J. Wright of Earle, Dr. Gene Ring of Dardanelle, Dr. Milton Lubin of West Memphis, Dr. Oliver Wallace of Green Forest, Dr. Joe Stallings and Dr. Glenn Sears of Jonesboro, Dr. Roland C. Reynolds of Newport, Dr. Joe Abrams of Cabot, Dr. Shafquat Hussain of Pine Bluff, Drs. Noble B. Daniel, Gerald L. Guyer and Carl E. Northcutt of Stuttgart, Dr. Arturo Venturina of Huntington, Drs. Phillip A. Tracy, George A. McCrary and J. Dale Calhoon of Jacksonville, Dr. Martin P. Meisenheimer of Cherokee Village and Dr. Jack T. Dobson of Fordyce.

Dr. Patrick L. Weber of Arkadelphia, Dr. Jay D. Holland of Little Rock, Dr. Michael E. Kordek of Perryville and Dr. James M. Sheppard of El Dorado have received their initial certification.

DR. MAUPIN DIRECTOR

Dr. James Maupin of Dardanelle has joined the Arkansas Foundation for Medical Care as Medical Director.

DR. OSAM PRESENTS PROGRAM

Dr. Patrick Osam of Little Rock presented a program on trauma at the fall convention of the State Licensed Practical Nurses Association.

DR. JAYASUNDERA SPEAKS

Dr. Naomal S. Jayasundera of Hot Springs spoke on "Lung Disease" during observance of National Home Health Week at a Senior Citizen's Center.

DR. BELL CERTIFIED

Dr. Robert S. Bell of El Dorado has been certi-

fied by the American Board of Orthopaedic Surgeons.

DR. ROY RECEIVES AWARD

Dr. F. Hampton Roy of Little Rock received the Parker Westbrook Award from the Historic Preservation Alliance of Arkansas. Dr. Roy was recognized for his contribution to historic preservation in Arkansas.

DR. STEARNS SPEAKS

Dr. David Stearns of DeQueen spoke to the DeQueen Lions Club on cancer statistics.

DR. SALTZMAN HONORED

Dr. Ben Saltzman of Little Rock was selected as the State government's "1984 Boss of the Year."

DR. RUSHER SPEAKER

Dr. A. H. Rusher of Jonesboro recently spoke to the Jonesboro Chapter of United Ostomy Association on "Self Esteem in the Ostomate."

DR. FOURNIER SPEAKS

Dr. Donald Fournier of Texarkana discussed "Asthma Medications" at an educational program sponsored by Wadley Regional Medical Center.

DR. O'NEAL ELECTED

Dr. Walter O'Neal of Little Rock is the newly-elected vice president of The Medical Institution Network.

DR. BURTON GIVES PROGRAM

Dr. Bruce K. Burton of Malvern presented a program on heart disease at a meeting of the American Association of Retired Persons.

OBITUARY

DR. WARREN W. CHAMBERLAIN

Dr. Chamberlain of Hot Springs died November 14, 1984. He was born October 1, 1899.

Dr. Chamberlain was a graduate of Henderson Brown College in Arkadelphia (now Henderson State University) where he was president of his senior class. He was a 1924 graduate of Tulane University School of Medicine in New Orleans. Dr. Chamberlain served his internship at Charity Hospital in New Orleans.

He had served as chief of staff at Leo N. Levi National Arthritis Hospital, Ouachita Memorial Hospital and St. Joseph's Mercy Medical Center in Hot Springs. He had practiced medicine for 57 years. Dr. Chamberain was a past president of the Garland County Medical Society, a life member of the Arkansas Medical Society and Americal Medical Association and a fellow of the American College of Surgeons.

Dr. Chamberlain served in World War I and World War II and retired from the Army Air Corps as a Lieutenant Colonel. During World II, he was chief of surgical service at each base where he was stationed.

He was a member of the Hot Springs Rotary Club and had been honored as a Paul Harris Fellow by Rotary. He was a member of Hot Springs Lodge No. 62 Free and Accepted Mason, El Karubah Shrine Temple in Shreveport, Louisiana, and a deacon and elder of the First Presbyterian Church in Hot Springs.

Dr. Chamberlain is survived by his son, Dr. Joe Warren Chamberlain of Hot Springs.

DR. PETER R. DORNENBURG

Dr. Peter Dornenburg of Little Rock died December 6, 1984. He was born April 13, 1943, in Pittsburgh, Pennsylvania.

He was a 1965 graduate of the St. Vincent College in Latrobe, Pennsylvania, and a 1969 graduate of the University of Pittsburgh School of Medicine in Pennsylvania. His internship and residency training in General Surgery and Orthopaedic Surgery were at Vanderbilt University Hospital in Nashville. He was board certified in Orthopaedic Surgery.

Dr. Dornenburg served in the United States Navy at Corpus Christi, Texas. He moved to Arkansas in 1976 and joined the Arkansas Orthopaedic Associates.

Dr. Dornenburg was a past president of the Arkansas Orthopaedic Society and was serving as vice-president of the Arkansas Hand Club. He was on the staff of St. Vincent Infirmary and Doctors Hospital and was a clinical professor at the University of Arkansas College of Medicine.

He is survived by his parents Mr. and Mrs. Delbert Dornenburg of Little Rock, two brothers and two sisters.

DR. W. O. GREEN, JR.

Dr. Green of Blytheville died December 10, 1984. He was born November 25, 1926, in Manila.

Dr. Green was graduated from the Arkansas State College in 1947 and from the University of Arkansas College of Medicine in 1954.

He was a veteran of World War II and a member of the American Legion.

Dr. Green is survived by his wife, Vernell O'Neal Green; two sons, Dr. William O. Green, III, of Little Rock and Dr. Phillip E. Green of North Little Rock; and three daughters.



NEW MEMBERS

DR. JAMES R. BRADLEY, JR.

Dr. Bradley has joined the Craighead-Poinsett County Medical Society. He was born in Memphis, Tennessee.

He received his pre-medical education at Memphis State University in Memphis, Tennessee. Dr. Bradley was graduated from the University of Tennessee College of Medicine in Memphis in 1971. His rotating internship was with St. Joseph's in Memphis.

Dr. Bradley was associated with Doctors Clinic in Trenton, Tennessee, for eight and one-half years. He has been in Jonesboro for three years.

Dr. Bradley is a Professor of Family Practice with the University of Arkansas College of Medicine. He is board certified in Family Practice.

He specializes in Family Practice. Dr. Bradley has his office at 3100 Apache Drive in Jonesboro.

DR. ROGER K. STOLTZMAN

Dr. Stoltzman, a natice of Lincoln, Nebraska, has joined the Sebastian County Medical Society.

Dr. Stoltzman was graduated from Westmar College in LeMars, Iowa, in 1973, and from the University of Nebraska Medical School in Omaha in 1976. He served his internship and residency at Washington University – Barnes and Renard Hospitals in St. Louis, Missouri.

He was an Instructor in Psychiatry from 1980 to 1982 and an Assistant Professor of Psychiatry from 1982 until April 1984 at the Washington University and the Barnes and Renard Hospitals in St. Louis.

He is board certified in Psychiatry and Neurology.

Dr. Stoltzman specializes in Psychiatry. He has joined the Holt-Krock Clinic at 1500 Dodson in Fort Smith.

DR. MICHAEL S. WOLFE

Dr. Wolfe, another new member of the Sebastian County Medical Society, was born in Little Rock.

He is a 1974 graduate of the University of Arkansas at Fayetteville and a 1978 graduate of the Vanderbilt University School of Medicine in Nashville, Tennessee. Dr. Wolfe served a flexible internship and an Orthopaedic Surgery residency at the University of Arkansas College of Medicine in Little Rock.

Dr. Wolfe was an Instructor of Orthopaedic Surgery at the University from July to December 1983.

Dr. Wolfe specializes in Orthopaedic Surgery. He has joined Cooper Clinic on Waldron Road in Fort Smith. The mailing address is Post Office Box 3528, Fort Smith, 72913.

DR. A. WADE PARKER

Dr. Parker has joined the Union County Medical Society. He was born in Columbus, Mississippi.

He received his pre-medical education at Mississippi State University and was graduated from the University of Mississippi School of Medicine in Jackson in 1977. His internship and residency were with the University of Arkansas Medical Center.

Dr. Parker specializes in Internal Medicine. He is associated with the South Arkansas Diagnostic Clinic at 714 West Faulkner in El Dorado.



THINGS TO COME

January 26

Magnetic Resonance Imaging (MRI). Sponsored by the Radiology Associates, P.A., and the Continuing Medical Education Department of

St. Vincent Infirmary. Little Rock Hilton Inn. 5 hours of Category I.

MRI is the newest imaging modality available to medicine. Radiology Associates, P.A., has installed and is operating an MRI scanner. The purpose of the meeting to introduce the modality and its various applications to the practicing physicians of the State. The speakers will include Kenneth Maravilla, M.D., from the University of Texas Health Science Center; Patrick J. Bryan, M.D., from the University of Cleveland Hospitals; Robert Laakman, M.D., from Case Western Hospital, Cleveland, Ohio; and H. Howard Cockrill, M.D., of Radiology Associates, P.A., of Little Rock, Arkansas.

For more information, contact Allan Elkins, Administrator, Radiology Associates, P.A., 500 South University, Little Rock; telephone 664-3914.

The Continuing Education Department of the University of Mississippi Medical Center has announced the following programs:

February 2

Nuclear Medicine Update, University Medical Center, Jackson, Mississippi.

February 16

Internal Medicine Update, University Medical Center, Jackson.

March 14-16

Surgical Forum XII, Holiday Inn Downtown, Jackson.

March 1-22

Neurology Spring Symposium, Sheraton Regency, Jackson.

March 23

Spring Sonic Symposium, University Medical Center, Jackson.

April 24-27

Family Practice Update, Sheraton Regency, Jackson.

For registration information and a brochure, contact Continuing Education at the University of Mississippi Medical Center, 2500 North State Street, Jackson, Mississippi 39216-4505; telephone 601-987-4914.

April 4-6

Spring Meeting of Arkansas Chapter, American College of Surgeons. Hot Springs. Location to be announced.

April 18-21

109th Annual Session of the Arkansas Medical Society. Theme: Health Care Issues 1985. Arlington Hotel, Hot Springs.

May 21-24

15th Annual Meeting of the University Association for Emergency Medicine. Raddison Muehlebach Hotel, Kansas City, Missouri. For more information, contact Mary Ann Schropp, Executive Director, University Association for Emergency Medicine, 900 West Ottawa, Lansing, Michigan 48915; telephone 517-485-5484.

June 7-8

Third Symposium on Behavioral Neurology: Dementia. Vanderbilt University School of Medicine, Nashville, Tennessee. Light Hall on campus. For information and a brochure, contact Mrs. Joan Sullivan, Department of Neurology, Vanderbilt University School of Medicine, 2100 Pierce Avenue, Nashville, Tennessee 37212.

June 12-13

Symposium on the Histopathology and Immunology of the Hematopoietic System of the Mouse and Rat. Little Rock. For further information, contact Dr. Charles H. Frith, Director of Pathology, Intox Laboratories, #1 Intox Drive, Post Office Box 250, Redfield, Arkansas 72132; telephone 397-5207.

September 9-13

Fourth International Conference on Neurology of Selected Chemicals: Neurotoxicology in the Fetus and Child. Little Rock. For further information, contact Dr. Joan M. Cranmer, Conference Chairman, Department of Pediatrics #512B, University of Arkansas College of Medicine, Little Rock 72205; telephone 661-5997 or 661-5958.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

EVALUATION AND THERAPY OF PROSTATIC CANCER

Presented by David P. Gray, M.D., Oncologist and Hematologist, Jonesboro, Arkansas, *February 19, 7:00 p.m.*, Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. Sponsored by Baxter County Regional Hospital.

PRACTICAL MANAGEMENT OF RHEUMATIC DISORDERS

Presented by Eleanor Lipsmeyer, M.D., and Fred Robertson, M.D., *February 28 and March 2,* Arlington Hotel, Hot Springs, Arkansas. Sponsored by UAMS.

STATE HOSPITAL FOUNDERS DAY PROGRAM

Presented by Emile P. Eckart, M.D., *March 1, 9:00 a.m. to 12:00 noon,* Greater Little Rock Community Health Center Auditorium, State Hospital Grounds. Two and one-half hours Category I credit. Sponsored by UAMS.

RADIOLOGY UPDATE

Presented by Ernest Ferris, M.D., *March 9-10.* Sponsored by UAMS.

UPDATE IN CLINICAL GENETICS AND BIRTH DEFECTS

Presented by Frank Miller, M.D., *March 13-14, 7:30 a.m. to 12:00 noon,* Sheraton Hotel, Hot Springs, Arkansas. Seven and one-half hours Category I credit. Fee $60. Sponsored by UAMS.

ADVANCES IN MANAGEMENT OF PERIPHERAL VASCULAR DISEASE

Presented by Robert W. Barnes, M.D., Professor and Chairman, University of Arkansas for Medical Sciences, *March 19, 7:00 p.m.,* Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. Sponsored by Baxter County Regional Hospital.

RENAL PROGRAM

Presented by William J. Flanigan, *March 29-31,* Airport East Holiday Inn, Little Rock. Sponsored by UAMS.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

EL DORADO — AHEC - SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC - South Arkansas.
Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC - South Arkansas.
Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC - South Arkansas.
Internal Medicine Conference, first, second and fourth Wednesday, 12:45 to 1:30 p.m., AHEC - South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Tuesday, 12:45 p.m. to 1:30 p.m., AHEC - South Arkansas.
Behavioral Science Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC - South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center.)

FAYETTEVILLE — AHEC - NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, first and third Thursday, 1:30 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
ICU Lecture Series, second Friday, 1:30 p.m., V.A. Medical Center.
Peer Exchange, February: "Hermatology"; March "Pulmonary".

JONESBORO — AHEC - NORTHEAST

SPECIAL CONFERENCE, "Intensive Care Medicine Updated 1985", February 15 and 16.
Weekly Medical Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Interesting Case Conference, second Tuesday and firth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.

Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL
Pediatric Radiology Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Neurology Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Primary Care Seminar, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER
Surgery Conference, each Monday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY
Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Classroom 3, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m. Classroom 1, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Gynecology Conference, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Dining Room.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Classroom 1, Education Wing.
Neuropathology Conference, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S1174K, Laboratory.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Cancer Conference, fourth Thursday, 12:00 noon to 1:00 p.m., Room S1174K, Laboratory.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES
Gastroenterology Interhospital Problems Conference, first Monday, 6:00 p.m., St. Vincent Infirmary.
Anesthesia Lecture Series, each Tuesday at 7:00 a.m. and each Wednesday at 4:00 p.m., Education II Building, Room G/106.
Medicine Research Conference, each Tuesday, 8:00 a.m., Shorey Building, Room 8/105.
Psychiatry Grand Rounds, each Thursday, 12:00 noon, Child Study Center Auditorium.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Anesthesia M & M Conference, each Thursday, 4:00 p.m., Education II Building, Room G/106.
Psychiatry Case Conference, each Friday, 1:00 p.m., Child Study Center Conference Room.

PINE BLUFF — AHEC
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting.)
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC - SOUTHWEST
Tumor Conference, February 4, 7:00 a.m., St. Michael Hospital.
Chest Conference, March 4, 12:30 p.m., St. Michael Hospital.
Tumor Conference, March 6, 7:00 a.m., St. Michael Hospital.

Opportunities to Practice Medicine in Arkansas

BATESVILLE. The potential for a family or general practitioner interested in private practice is excellent in this second oldest city in Arkansas. Only two hours from Little Rock, Batesville is located on the White River at the foothills of the Ozark Mountains with a population of 9,000 and a service area of approximately 60,000. Medical facilities include the White River Regional Medical Center and Gray's Hospital Inc., which has a total bed size of 161. Harris Hospital and Clinic, Inc., a 132 bed full service accredited hospital is approximately 35 miles away in Newport. The physician resources include: general/family practice, general/orthopedic surgery, ophthalmology, radiology, pediatrics, ob-gyn, pathology, anethesiology and internal medicine. A 24-hour ambulance service is also available in Batesville.

BEARDEN. An excellent opportunity exists for a family physician. The town is currently without a physician and the nearest medical care is 15 miles away. The city owned clinic is capable of housing two physicians and is available. The local ambulance service provides emergency transportation to surrounding hospitals. Area hospitals include: 51-bed Dallas County Hospital 14 miles away in Fordyce, and Ouachita County Hospital, with 150 beds, 16 miles away in Camden. The community is 81 miles south of Little Rock and has a population of 1,191 with a service area of 3,500.

BULL SHOALS. Opportunities to practice in Bull Shoals include general and family practice, pediatrics, internal medicine, urology, dermatology, and opthalmology. The 48-bed Bull Shoals Community Hospital is a full-service facility built in 1975 and includes a four-bed CCU unit with excellent ancillary services. Laboratory includes tissue lab, a complete respiratory service and a well staffed and equipped physical therapy department. Ambulance and Home Health Services are also provided by the hospital. Fully equipped clinic space is available with financial arrangements tailored to meet the physician's needs. Other area hospitals include the 59-bed Central Ozarks Medical Center, 15 miles south in Yellville, and the Baxter General Hospital, with 133 beds, located 15 miles east in Mountain Home. Located in the Ozark Mountains, Bull Shoals is in the middle of a vacation mecca. The community population is 1,312 and the service area population is 15,000. Two of the most popular lakes in Mid-America, Bull Shoals and Norfolk, are nearby.

CORNING. This northeast Arkansas community has a population of 4,000 and offers an excellent opportunity for physicians in family practice, internal medicine, and general surgery. The Corning Community Hospital is a city-owned, 40-bed facility, and provides medical and surgical services including obstetrics and a 24-hour emergency room. Anciliary services include laboratory, radiology, pharmacy, physical inhalation therapy, and EKG. Other area hospitals include the 129-bed Community Methodist Hospital, 30 miles away in Paragould, and St. Bernard's Regional Medical Center and the Methodist Hospital of Jonesboro, with a total of 360 beds. The hospital board is interested in discussing private practice opportunities with financial arrangements tailored to the needs of the individual physician. There are currently two family physicians, one internist, one surgeon, one radiologist and one pathologist on the staff of the hospital.

DEWITT. With a community population of 4,500 and a service area population of 10,000, DeWitt offers an excellent opportunity for one or two family physicians. The 34-bed DeWitt City Hospital is a full service medical/surgical facility. Emergency room coverage is supplied on a contract basis or can provide an additional source of income for a new physician. Ample office space with equipment is available adjacent to the hospital. Teritary care and continuing medical education is available in Pine Bluff, the regional medical center for southeastern Arkansas, approximately one hour away.

GILLETT. Opportunity exists in Gillett for a family physician. With a population of 1,000 this community raised funds to construct and fully equip a modern 2,500 square foot clinic for both a physician and a dentist. Extensive x-ray equipment, EKG and laboratory are housed in the clinic. Area hospitals include DeWitt City Hospital with 34 beds only 10 minutes from the clinic, Desha County Hospital with 50 beds located 15 minultes away in Dumas, and the Stuttgart Memorial Hospital with 103 beds, approximately 30 minutes away.

GRANNIS/WICKES. A unique opportunity is available for the family physician near the beautiful Ouachita National Forest. A modern 5,500 square foot clinic built by community sponsors has five exam rooms with lab and x-ray. Area hospitals are the 57-bed Polk Counity Memorial, located 20 miles away in Mena, and the 122-bed Community Hospital of DeQueen, only 25 miles away. Population of Grannis/Wickes is approximately 700.

For additional information contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

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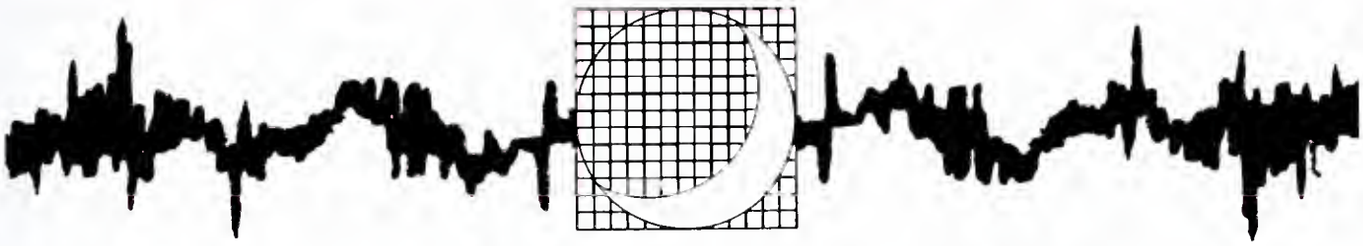
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From a clinical aspect, 80% of the patients referred to sleep disorders laboratories are diagnosed as having either sleep induced respiratory impairment or narcolepsy.

THE PRIMARY TESTS. The three primary studies conducted in the laboratory are polysomnograms (PSG), multiple sleep latency (MSLT), and nocturnal penile tumescence (NPT). Normally, the PSG and NPT are performed over two consecutive nights. The MSLT is a test consisting of twenty minute naps every two hours throughout the day. In general, a PSG is done the night before the daytime MSLT.

REFERRAL. The laboratory evaluation consists of information provided by the patient, the patient's referring physician, and physicians and personnel associated with the sleep lab as well as the sleep evaluations themselves.

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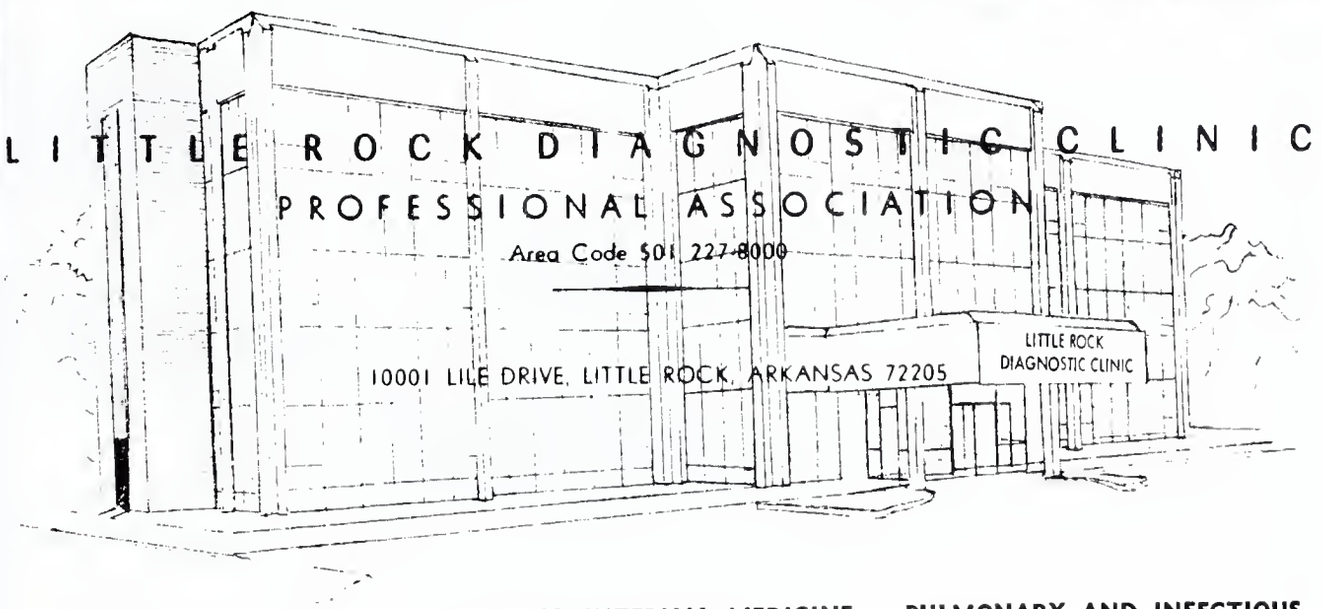
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February 1985

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ARKANSAS MEDICAL SOCIETY
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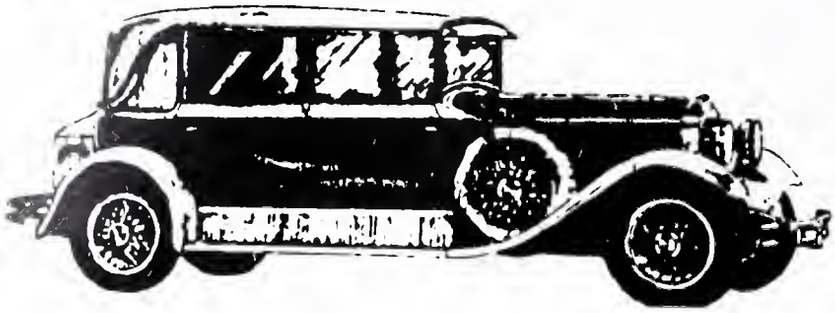
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NEWS — Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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CORRECTION

The article entitled "The Surgical Management of Erectile Impotence" published in the *Journal of the Arkansas Medical Society* (January 1985 issue) should have shown that the following physicians were the authors of this article:

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Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72902. Published monthly under direction of the Council, Arkansas Medical Society, Volume 81, No. 9. Subscription $22.00 a year. Single copies $2.00. Second-class postage paid at Fort Smith, Arkansas, and at additional mailing offices. Publication No. 283860.

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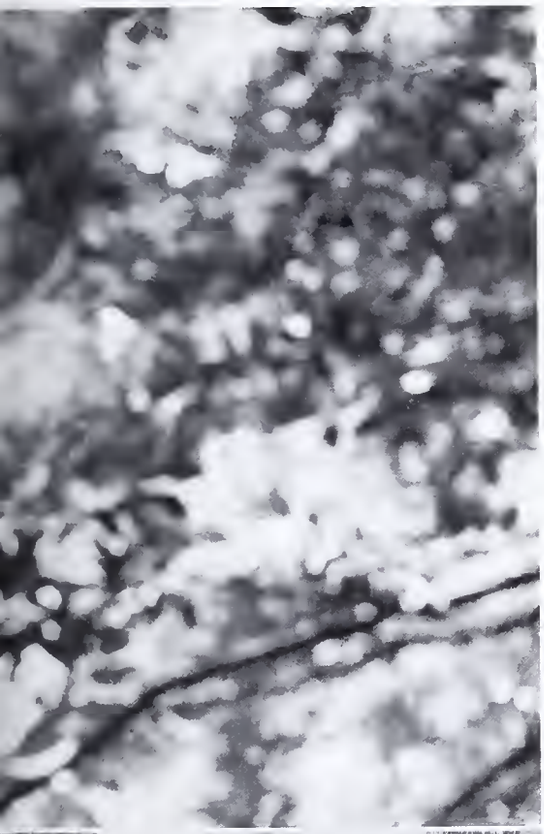
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New study reveals no interaction betwee



Ativan® (lorazepam) and Darvon® (propoxyphene HCl) ℂ℣

In a study evaluating the influence of propoxyphene coadministration on the pharmacokinetics of the oxidatively metabolized benzodiazepines Xanax® (alprazolam) ℂ and Valium® (diazepam) ℂ, and a benzodiazepine metabolized by conjugation, Ativan® (lorazepam), the following results were reported:

With Xanax, propoxyphene caused a large and highly significant prolongation of half-life and impairment of total metabolic clearance.[1]

In the case of Valium, propoxyphene produced a small but not statistically significant impairment of clearance.[1]

Propoxyphene had no apparent effect on the distribution, half-life or clearance of Ativan.[1]

In this randomized crossover study, eight healthy male and female volunteers received single oral doses of alprazolam (1 mg), six received single IV doses of diazepam (10 mg), and five received single IV doses of lorazepam (2 mg), once in a drug-free control state and again during coadministration of propoxyphene (65 mg q6h). Consistent with previous findings, this study evidences that Ativan does not interact with drugs that undergo oxidative metabolism.[2-5] In contrast to most other benzodiazepines, Ativan does not compete for the cytochrome P-450 enzyme system.

The clinical implications of the pharmacokinetic interaction, or non-interaction, of propoxyphene with benzodiazepines are not established by this study. Even without a pharmacokinetic interaction, propoxyphene and benzodiazepines share central depressant properties and therefore should be coadministered with suitable caution. A concurrent pharmacokinetic interaction indicates a need for even further caution. Coadministration of propoxyphene and alprazolam, for example, would produce not only the expected pharmacodynamic interaction, but also whatever additional central depressant effect would be produced by the elevated steady-state plasma concentrations of alprazolam due to its impaired clearance.

Caution should also be observed when propoxyphene is prescribed for patients who use alcohol to excess.

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2. Patwardhan RV, Yarborough GW, Desmond PV, et al Gastroenterology *79*:912-916, 1980.
3. Abernethy DR, Greenblatt DJ, Divoll M, et al Psychopharmacology *80*:275-278, 1983
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5. Ochs HR, Greenblatt DJ, Abernethy DR Data on file, Wyeth Laboratories.

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Philadelphia, PA 19101

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Ativan® for Anxiety (lorazepam) ℂ℣

See important information on following page.



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DISTINCTIVE DESIGN 0.5, 1.0 and 2.0 mg

Brief Summary of Prescribing Information.

Indications and Usage: Management of anxiety disorders or short-term relief of symptoms of anxiety or anxiety associated with depressive symptoms. Anxiety or tension associated with stress of everyday life usually does not require treatment with an anxiolytic.

Effectiveness in long-term use, i.e., more than 4 months, has not been assessed by systematic clinical studies. Reassess periodically usefulness of the drug for the individual patient.

Contraindications: Known sensitivity to benzodiazepines or acute narrow-angle glaucoma.

Warnings: Not recommended in primary depressive disorders or psychoses. As with all CNS-acting drugs, warn patients not to operate machinery or motor vehicles, and of diminished tolerance for alcohol and other CNS depressants.

Physical and Psychological Dependence: Withdrawal symptoms like those noted with barbiturates and alcohol have occurred following abrupt discontinuance of benzodiazepines (including convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Addiction-prone individuals, e.g. drug addicts and alcoholics, should be under careful surveillance when on benzodiazepines because of their predisposition to habituation and dependence. Withdrawal symptoms have also been reported following abrupt discontinuance of benzodiazepines taken continuously at therapeutic levels for several months.

Precautions: In depression accompanying anxiety, consider possibility for suicide.

For elderly or debilitated patients, initial daily dosage should not exceed 2mg to avoid oversedation. Terminate dosage gradually since abrupt withdrawal of any antianxiety agent may result in symptoms like those being treated: anxiety, agitation, irritability, tension, insomnia and occasional convulsions. Observe usual precautions with impaired renal or hepatic function. Where gastrointestinal or cardiovascular disorders coexist with anxiety, note that lorazepam has not been shown of significant benefit in treating gastrointestinal or cardiovascular component. Esophageal dilation occurred in rats treated with lorazepam for more than 1 year at 6mg/kg/day. No effect dose was 1.25mg/kg/day (about 6 times maximum human therapeutic dose of 10mg/day). Effect was reversible only when treatment was withdrawn within 2 months of first observation. Clinical significance is unknown; but use of lorazepam for prolonged periods and in geriatrics requires caution and frequent monitoring for symptoms of upper G.I. disease. Safety and effectiveness in children under 12 years have not been established.

ESSENTIAL LABORATORY TESTS: Some patients have developed leukopenia; some have had elevations of LDH. As with other benzodiazepines, periodic blood counts and liver function tests are recommended during long-term therapy.

CLINICALLY SIGNIFICANT DRUG INTERACTIONS: Benzodiazepines produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

CARCINOGENESIS AND MUTAGENESIS: No evidence of carcinogenic potential emerged in rats during an 18-month study. No studies regarding mutagenesis have been performed.

PREGNANCY: Reproductive studies were performed in mice, rats, and 2 strains of rabbits. Occasional anomalies (reduction of tarsals, tibia, metatarsals, malrotated limbs, gastroschisis, malformed skull and microphthalmia) were seen in drug-treated rabbits without relationship to dosage. Although all these anomalies were not present in the concurrent control group, they have been reported to occur randomly in historical controls. At 40mg/kg and higher, there was evidence of fetal resorption and increased fetal loss in rabbits which was not seen at lower doses. Clinical significance of these findings is not known. However, increased risk of congenital malformations associated with use of minor tranquilizers (chlordiazepoxide, diazepam and meprobamate) during first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, use of lorazepam during this period should almost always be avoided. Possibility that a woman of child-bearing potential may be pregnant at institution of therapy should be considered. Advise patients if they become pregnant to communicate with their physician about desirability of discontinuing the drug. In humans, blood levels from umbilical cord blood indicate placental transfer of lorazepam and its glucuronide.

NURSING MOTHERS: It is not known if oral lorazepam is excreted in human milk like other benzodiazepines. As a general rule, nursing should not be undertaken while on a drug since many drugs are excreted in milk.

Adverse Reactions, if they occur, are usually observed at beginning of therapy and generally disappear on continued medication or on decreasing dose. In a sample of about 3,500 anxious patients, most frequent adverse reaction is sedation (15.9%), followed by dizziness (6.9%), weakness (4.2%) and unsteadiness (3.4%). Less frequent are disorientation, depression, nausea, change in appetite, headache, sleep disturbance, agitation, dermatological symptoms, eye function disturbance, various gastrointestinal symptoms and autonomic manifestations. Incidence of sedation and unsteadiness increased with age. Small decreases in blood pressure have been noted but are not clinically significant, probably being related to relief of anxiety.

Transient amnesia or memory impairment has been reported in association with the use of benzodiazepines.

Overdosage: In management of overdosage with any drug, bear in mind multiple agents may have been taken. Manifestations of overdosage include somnolence, confusion and coma. Induce vomiting and/or undertake gastric lavage followed by general supportive care, monitoring vital signs and close observation. Hypotension, though unlikely, usually may be controlled with Levarterenol Bitartrate Injection U.S.P. Usefulness of dialysis has not been determined.

Ativan® IV for Anxiety (lorazepam)

DOSAGE: Individualize for maximum beneficial effects. Increase dose gradually when needed, giving higher evening dose before increasing daytime doses. Anxiety, usually 2-3mg/day given b.i.d. or t.i.d.; dosage may vary from 1 to 10mg/day in divided doses. For elderly or debilitated, initially 1-2mg/day; insomnia due to anxiety or transient situational stress, 2-4mg h.s.

HOW SUPPLIED: 0.5, 1.0 and 2.0mg tablets.

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1985 ANNUAL MEETING

ARKANSAS MEDICAL SOCIETY

The meeting will begin with business session on THURSDAY, APRIL 18, 1985. Socioeconomic seminar scheduled for Thursday, April 18; General Scientific Sessions will be on Friday morning, April 19, and Saturday morning, April 20. Saturday afternoon is reserved for specialty group meetings. The Convention will conclude with business session on Sunday, April 21, 1985.

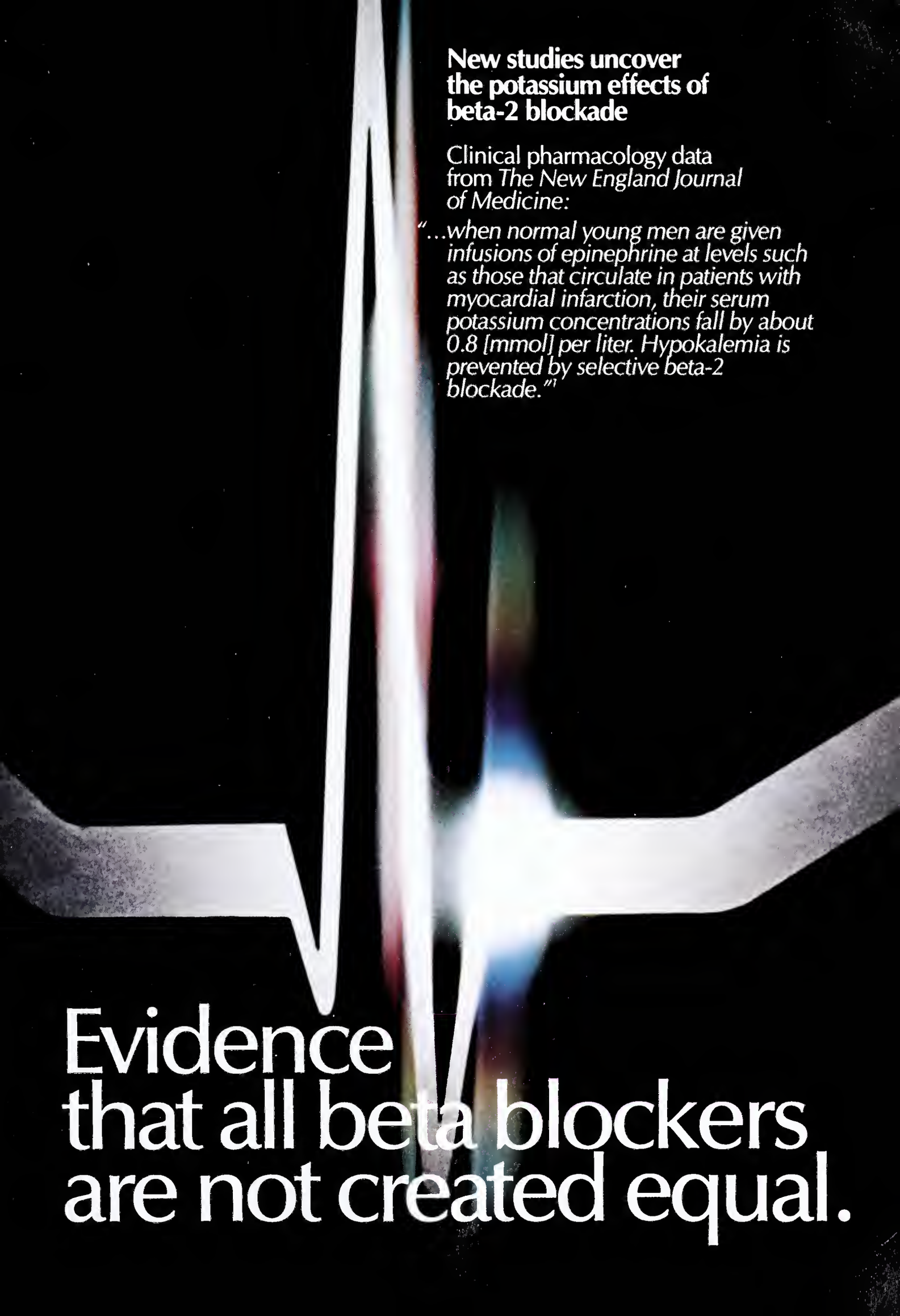
The Scientific Program theme will be "Health Care Issues for 1985."

Reservations should be made with hotel as soon as possible. The convention coincides with racing season at Oaklawn.

April 18-21, 1985

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New studies uncover the potassium effects of beta-2 blockade

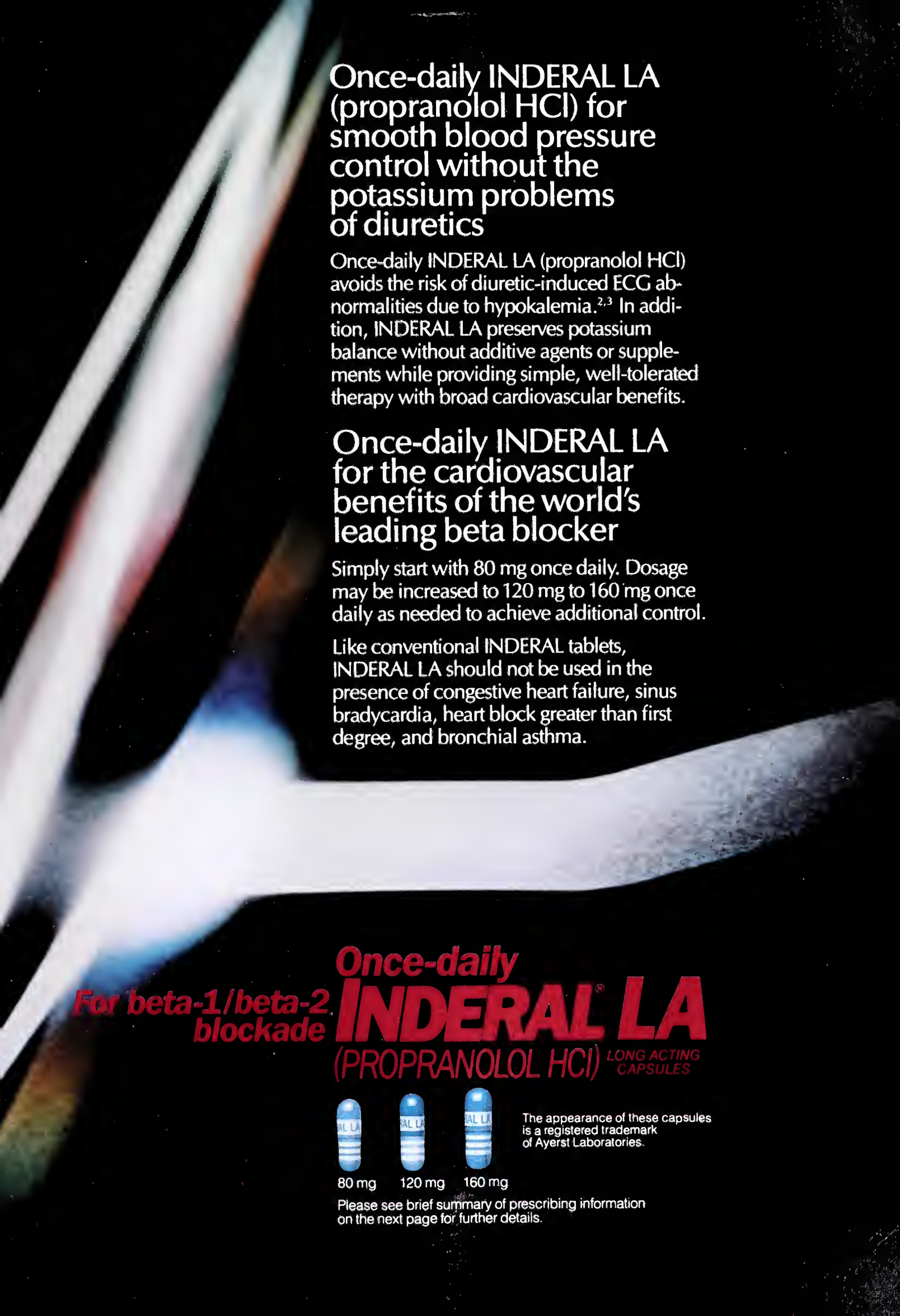
Clinical pharmacology data from *The New England Journal of Medicine:*

"...when normal young men are given infusions of epinephrine at levels such as those that circulate in patients with myocardial infarction, their serum potassium concentrations fall by about 0.8 [mmol] per liter. Hypokalemia is prevented by selective beta-2 blockade."[1]

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For beta-1/beta-2 blockade

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Please see brief summary of prescribing information on the next page for further details.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

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INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of receptor agonists and its effects can be reversed by administration of such agents dobutamine or isoproterenol. However, such patients may be subject to protracted hypotension. Difficulty in starting and maintaining the heartbeat has also been reported beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent pearance of certain premonitory signs and symptoms (pulse rate and pressure cha acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthy Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of sy of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid functi

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases ha reported in which, after propranolol, the tachycardia was replaced by a severe brad requiring a demand pacemaker. In one case this resulted after an initial dose propranolol.

PRECAUTIONS. *General:* Propranolol should be used with caution in patients with i hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treat hypertensive emergencies.

Beta adrenoreceptor blockade can cause reduction of intraocular pressure. should be told that INDERAL may interfere with the glaucoma screening test. Withdra lead to a return of increased intraocular pressure.

Clinical Laboratory Tests: Elevated blood urea levels in patients with severe heart d elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such a pine should be closely observed if INDERAL is administered. The added catecho blocking action may produce an excessive reduction of resting sympathetic nervous which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orth hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in anima been conducted to evaluate toxic effects and carcinogenic potential. In 18-month stu both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of sig drug-induced toxicity. There were no drug-related tumorigenic effects at any of the levels. Reproductive studies in animals did not show any impairment of fertility th attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embryot animal studies at doses about 10 times greater than the maximum recommended huma

There are no adequate and well-controlled studies in pregnant women. INDERAL be used during pregnancy only if the potential benefit justifies the potential risk to the

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercise INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient an rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV block tension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually Raynaud type.

Central Nervous System: lightheadedness; mental depression manifested by ins lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, disturbances, hallucinations, an acute reversible syndrome characterized by disoriental time and place, short-term memory loss, emotional lability, slightly clouded sensoriu decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, dia constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with a and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocyto purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male tence, and Peyronie's disease have been reported rarely. Oculomucocutaneous rea involving the skin, serous membranes and conjunctivae reported for a beta blocker (pra have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochlori sustained-release capsule for administration once daily. If patients are switched from IND tablets to INDERAL LA capsules, care should be taken to assure that the desired thera effect is maintained. INDERAL LA should not be considered a simple mg for mg substit INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitratio be necessary, especially to maintain effectiveness at the end of the 24-hour dosing in

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is INDERAL LA once daily, whether used alone or added to a diuretic. The dosage m increased to 120 mg once daily or higher until adequate blood pressure control is ach The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage mg may be required. The time needed for full hypertensive response to a given dos variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDER once daily, dosage should be gradually increased at three to seven day intervals until op response is obtained. Although individual patients may respond at any dosage leve average optimum dosage appears to be 160 mg once daily. In angina pectoris, the valu safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDER once daily. The usual effective dose range is 160-240 mg once daily. The dosage m increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response obtained within four to six weeks after reaching the maximum dose, INDERAL LA th should be discontinued. It may be advisable to withdraw the drug gradually over a pe several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group a limited to permit adequate directions for use.

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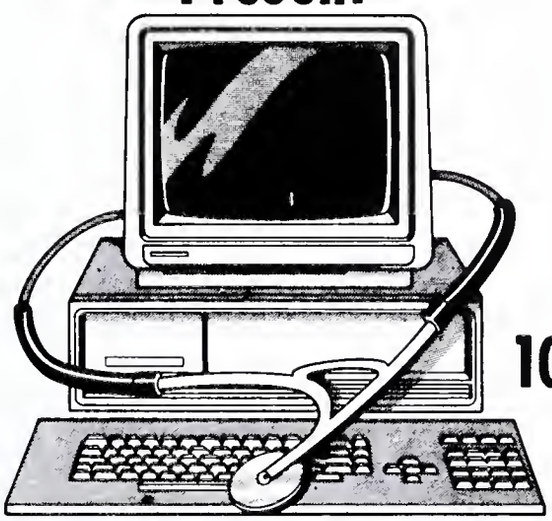


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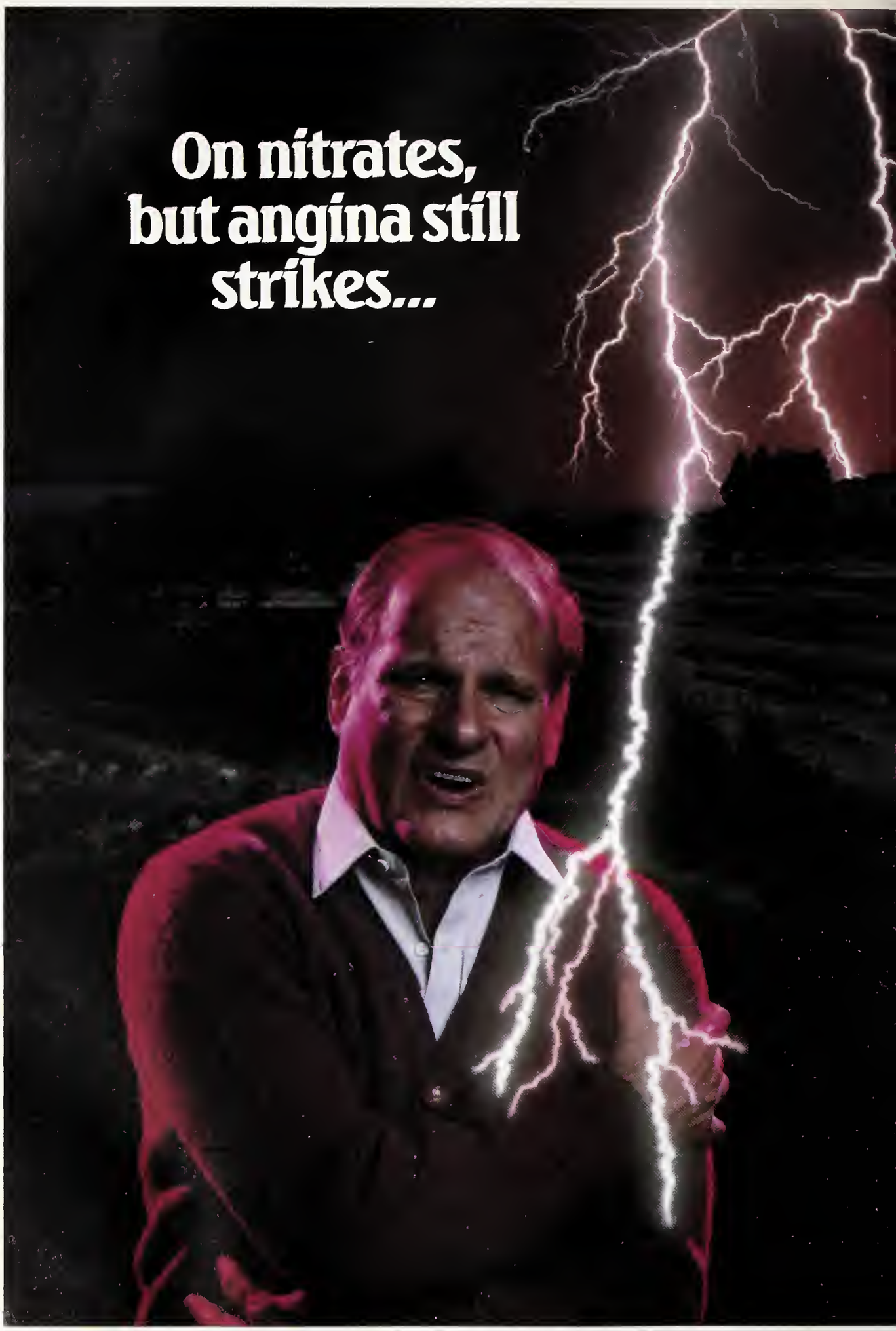
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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and/or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C.* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR<50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

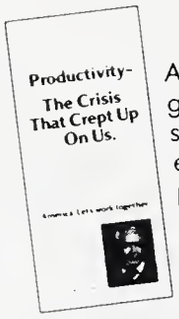
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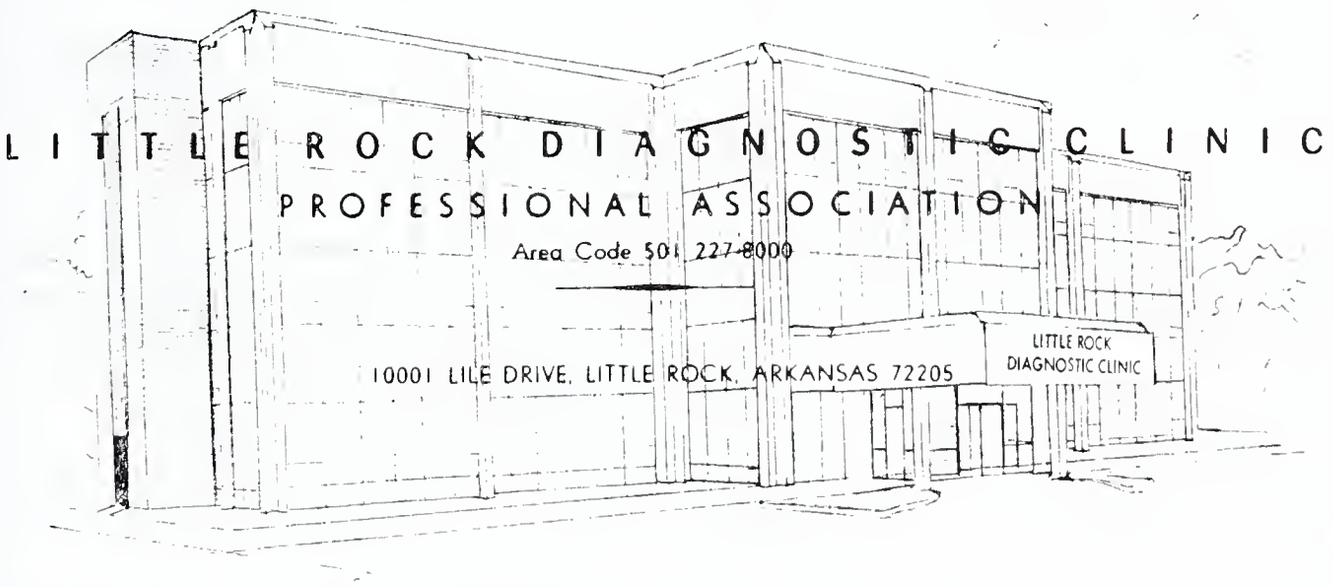
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Current Management of Diabetic Retinopathy

Harry W. Flynn, Jr., M.D.*

Diabetic retinopathy is the number one cause of legal blindness in the United States in patients under the age of sixty-five.[1] This disease is caused by widespread microvascular disease of the retina, the neurosensory portion of the posterior segment of the eye. Current techniques of laser treatment can greatly reduce the frequency of blindness from diabetic retinopathy and early detection is essential in the initiation of appropriate treatment.[2]

Diabetic retinopathy consists of two major categories.[3] The milder stage of diabetic retinopathy is called non-proliferative or background diabetic retinopathy and consists of retinal microaneurysms, focal hemorrhages, hard and soft exudates, venous beading, and intraretinal microvascular abnormalities. The microvascular leakage from this stage of the disease often results in macular edema, a frequent cause of mild to moderate visual loss in the diabetic patient.[4] Proliferative diabetic retinopathy is the most advanced stage of this disease and is characterized by the development of neovascularization on the optic disc and on the surface of the retina. Progressive vitreoretinal traction may cause elevation of neovascularization, thus predisposing to secondary vitreous hemorrhage and traction retinal detachment.

The Diabetic Retinopathy Study has identified four "risk factors" which increase the two year incidence of blindness in untreated eyes with proliferative diabetic retinopathy.[5] These retinopathy risk factors are the following:

1. Vitreous or preretinal hemorrhage present?
2. New vessels present?
3. New vessels on or near the optic disc (NVD)?
4. New vessels moderate or severe in extent?

The Diabetic Retinopathy Study showed that the incidence of blindness was 25% or more if no treatment was applied over a two year period in eyes with three or more of these retinopathy risk factors.

Argon laser photocoagulation treatment is commonly used in current ophthalmology practice to treat diabetic retinopathy. In diabetic macular edema, fluorescein angiography is used to identify the focal areas of microvascular leakage. Focal Argon laser treatment to these leakage sites will allow progressive reabsorption of edema fluid over a several month period. The visual acuity is often stabilized by treatment and in some cases the visual acuity may improve. However, visual function may not improve in all cases because of longstanding capillary damage involving the center of the macula.[6] The effectiveness of laser treatment for this stage of the disease is currently under investigation in the Early Treatment Diabetic Retinopathy Study, a multicenter randomized clinical trial sponsored by the National Eye Institute.[7]

The effectiveness of photocoagulation treatment for proliferative diabetic retinopathy has been well documented in the Diabetic Retinopathy Study. In this study, a panretinal scatter style of photocoagulation treatment was applied throughout the retina to one eye of patients with advanced diabetic retinopathy. Follow-up data two years later indicated that laser treatment caused a reduction in the occurrence of severe visual loss by 50% more in all groups of proliferative diabetic retinopathy.[2]

Nonclearing dense vitreous hemorrhage and traction retinal detachment may occur in advanced diabetic retinopathy. Laser treatment may not be possible in these eyes and vitreous surgery using a pars plana approach may be necessary.[8] Vitreous surgery is able to restore and maintain vision in approximately two-thirds of cases with complications from proliferative diabetic retinopathy. Vitreous surgery is able to restore and maintain vision in approximately two-thirds of cases with complications from proliferative diabetic retinopathy. Vitreous surgery has many potential complications including neovascular glaucoma and retinal breaks, which may lead to complete loss of vision.[9]

*Bascom Eye Institute, P. O. Box 016880, Miami, Florida 33101.

Early detection and appropriate laser treatment are important in the overall management of the diabetic patient. All diabetic patients should be educated regarding the possibility of visual complications and patients should be referred to an ophthalmologist in order to detect early signs of diabetic retinopathy. The guidelines for follow-up evaluation by the ophthalmologist are determined by the presence and degree of diabetic retinopathy in the individual patient. If no diabetic retinopathy is present, the patient can be followed at yearly intervals. If mild retinopathy not requiring laser treatment is present, follow-up visits may be scheduled at approximately six month intervals. If treatment is necessary, the patient should be followed carefully until complete laser treatment is accomplished. Retreatment is often necessary and long term follow-up of all diabetic patients is important.[10]

Diabetic retinopathy is a treatable disease in modern ophthalmology and blindness can be prevented in the majority of cases. In order to continue to reduce the frequency of blindness from diabetic retinopathy, the ophthalmologist should be involved in the primary care of all diabetic patients. Timely detection and appropriate laser treatment are proven techniques in reducing the frequency of severe visual loss from diabetic retinopathy.

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Chronic Ear Disease — The Ultimate Sound Barrier

Robert A. Jahrsdoerfer, M.D.*

Chronic Ear Disease

On October 14, 1947, Chuck Yeager made the first successful attempt by man to break the sound barrier. His aircraft, a Bell XF1, achieved an airspeed of 700 miles per hour at an altitude of 43,000 feet.

There was much uncertainty surrounding this event. It was predicted that if and when Chuck Yeager broke the sound barrier he would go deaf. It was even speculated that his ears might fall off!

In my address today I will speak of a different sound barrier—one that results from chronic ear disease.

It is axiomatic that we are unappreciative of our senses until they are lost. The late Helen Keller, who was both deaf and blind, said that "hearing is the deepest, most humanizing, philosophical sense man possesses . . ." We can ill afford to lose it.

Chronic ear disease wears many mantles: the ear may be infected or not, the disease process may be indolent or fulminating, and the patient may be otherwise healthy, or moribund. The proximity of other structures within, or contiguous to, the temporal bone places them at risk. Facial paralysis, vertigo, meningitis, and brain abscess are complications of chronic ear disease that are always serious and sometimes fatal. Hearing loss is invariably present. In the early stages of chronic ear disease the loss may be moderate in degree. In the untreated and neglected ear, the disease may lead to a total sensorineural hearing loss which may devastate the patient medically and socially.

While chronic ear disease may involve any part of the temporal bone, most ear pathology occurs in the middle ear and mastoid. There is, however, one disease entity that initially affects the external ear canal that warrants special mention. Malignant external otitis is a term that was coined by Chandler[1] in 1968. The location of his patient population was Miami, Florida, where warm weather and high humidity is conducive to infections of the external ear canal. Malignant external otitis is neither a cancer nor is it confined to the external ear canal. It is a fulminating infection of elderly diabetic patients and is almost uniformly caused by the bacterium Pseudomonas aeruginosa. The infection spreads beyond the ear canal to invade soft tissues and bone at the base of the skull. The usual methods that one would employ in the treatment of external otitis are soon found to be ineffective. The mortality rate approaches 50 percent. Contemporary therapy demands vigorous and long-term parenteral antibiotics, medical control of the diabetes, and occasional surgical debridement. Surgical exenteration for cure is neither definitive nor advised, and only serves to prolong and complicate the course of the disease.

Tympanosclerosis

Middle ear and mastoid disease is the leading cause of hearing loss in chronic ear disorders. The ear pathology may be non-suppurative, i.e., chronic inflammation and mucosal scarring in the absence of frank pus. Tympanosclerosis is a collagen hyalinization and secondary calcification of the mucosal lining of the middle ear and tympanic membrane. This lesion is often seen on routine otologic examination and appears as a whitish plaque-like density within the substance of the ear drum. The dense calciferous plaque of tympanosclerosis may restrict the motion of the drum and impede the transfer of sound vibrations. If tympanosclerosis is limited solely to the tympanic membrane, the hearing loss is rarely greater than 20 decibels. If tympanosclerosis involves the middle ear, enclosing the ossicles and restricting their movement, the hearing loss will be much greater.

Cholesteatoma

The term cholesteatoma refers to a cyst-like epidermal lesion that has invaded the middle ear or mastoid. Simply stated, it is skin growing in the wrong place.[2] My remarks today will be confined to acquired cholesteatoma, a lesion that results from the invagination of skin in the pars flaccida or in the posterosuperior quadrant of the tympanic membrane, or the migration of skin through a perforation in the tympanic membrane. Skin will grow through marginal perforations more readily than it will grow through central perforations.

Once squamous epithelium enters the middle ear or mastoid, it will continue to grow, often in whorls mimicing the concentric layers of an onion. The outer lining of the cholesteatoma, referred

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Presented at the General Session of the Arkansas Medical Society, Little Rock, Arkansas, April 13, 1984.

to as the matrix, is the leading border of the epithelial sac, and the desquamated debris is sloughed to the center of the sac. The growth of the cholesteatoma is therefore progressive and relentless.

A cholesteatoma may be self-cleaning as long as the neck of the sac is wide. A narrow neck cholesteatoma in which squamous debris is trapped internally, will continue to enlarge and will ultimately produce pressure necrosis of surrounding structures. Lysis of bone from enzymes in the advancing cholesteatoma matrix is believed to play a role. If the cholesteatoma remains untreated at an early stage, it will invariably become infected and place the ossicles at risk. The inner ear may be exposed to direct invasion by cholesteatoma, or infection, and at this junction the hearing suffers its greatest assault.

That part of the ossicular chain most often affected by the cholesteatoma is the incudostapedial joint. Bony erosion occurs from both pressure necrosis and from compromising the tenuous blood supply to this joint. A discontinuity of the ossicular chain occurs and the sound transformer mechanism of the ossicles is lost. Audiometrically, the end result is a conductive hearing loss of moderate proportions.

The second most vulnerable part of the ossicular chain is the superstructure of the stapes. The gracile and hollow architecture of the stapes crura makes them susceptible to destruction by pressure or infection. Disruption of the ossicular chain usually results in a conductive hearing loss of 30 decibels or greater. An apparent contradiction to this disease process occurs in ears in which a cholesteatoma has caused severe ossicular erosion but the hearing acuity remains good. This may be explained by the bulk of the cholesteatoma acting as a sound transfer mechanism to propogate vibrations across the middle ear.

With rare exceptions, cholesteatoma is not a medically treatable disease. The most effective treatment is surgery and the opportunity to salvage hearing requires early operation. Untreated, a cholesteatoma will grow inexorably and will destroy not only the middle ear, but may also invade contiguous structures with grave sequelae. Bony erosion of the semi-circular canals, or cochlea, may produce a fistula into the inner ear and cause total loss of hearing, vertigo, or both. Bony erosion of the tegmen tympani may trigger an intracranial complication. In extraordinary situations, a cholesteatoma may invade the diploic bone of the skull producing osteomyelitis, bony necrosis, and loss of support of the head upon the neck.

Cholesteatoma is usually considered to be a surgically treatable disease with predictable results. Chronic suppurative otitis media in the absence of cholesteatoma may be hard to treat. Chronic otorrhea often signifies an infection of the middle ear and mastoid with gram negative bacteria, most commonly Pseudomonas, Proteus, and E. coli. Staphylococcus aureus may also be found either alone or in combination with the above organisms. The ear infection spawns granulation tissue which occludes the air-cell system of the mastoid and contributes to Eustachian tube blockage. The infection may spread to the petrous bone and place the ear at even a greater risk of hearing loss.

Pain is not a common complaint in chronic ear disease. When pain occurs, it is usually ascribable to pressure from a cholesteatoma, abscess formation, or tumor. Chronic otorrhea, hearing loss, and otalgia are symptoms suggestive of a malignant lesion and certainly this entity must be considered in the differential diagnosis. If a facial nerve paralysis is found in conjunction with the above signs and symptoms, the diagnosis is cancer until proven otherwise.

Not every cholesteatoma results from invagination or migration of squamous epithelium. Increasingly, over the past decade, cholesteatoma has been discovered behind intact tympanic membranes; a condition which was formerly believed to arise from congenital epidermal cell rests in the middle ear. Congenital cholesteatoma is rare, however, while cholesteatoma behind an intact tympanic membrane is not.

How does cholesteatoma develop behind an intact tympanic membrane? It is now recognized that any break in the integrity of the tympanic membrane can transpose microscopic fragments of skin to the middle ear. Situations under which this may occur are myringotomy with or without ventilation tubes, traumatic perforations, or a spontaneous perforation of the ear drum from acute otitis media. Although the cholesteatoma is usually limited to the middle ear, it nonetheless exhibits the same potential for destruction as does the acquired cholesteatoma mentioned previously.

The otologic surgeon is not always successful in his or her treatment of chronic ear disease. In a

large reported series,[3] 2-3 percent of patients found their hearing permanently worse following surgery. The goals of surgical treatment of chronic ear disease must be realistic and understood by the patient. Some ears may be so badly diseased as to defy surgical correction for hearing rehabilitation. In this group a hearing aid may be a better choice.

In summary, chronic ear disease is a courier of deafness. Its capacity to destroy must be recognized early, and appropriate treatment to deny this outcome must be undertaken. To fail in this charge is to sustain the ultimate sound barrier.

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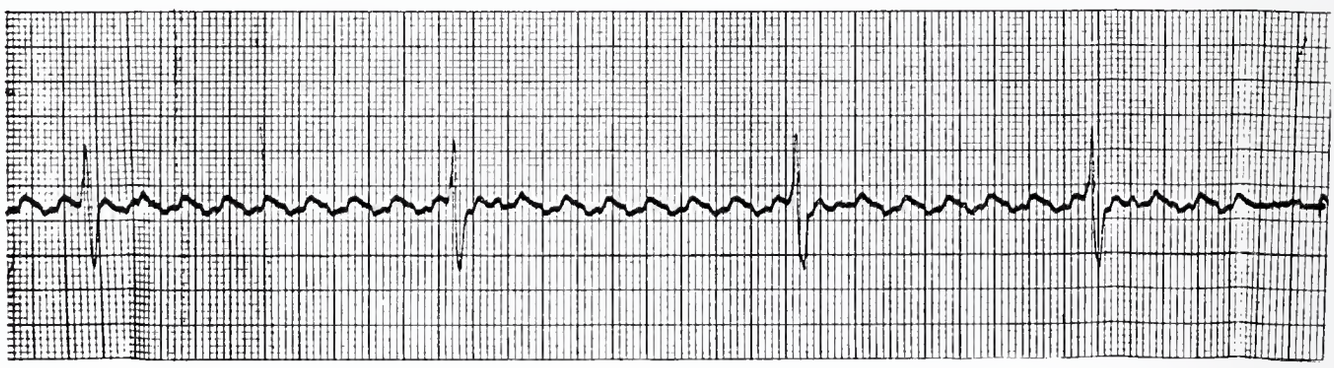
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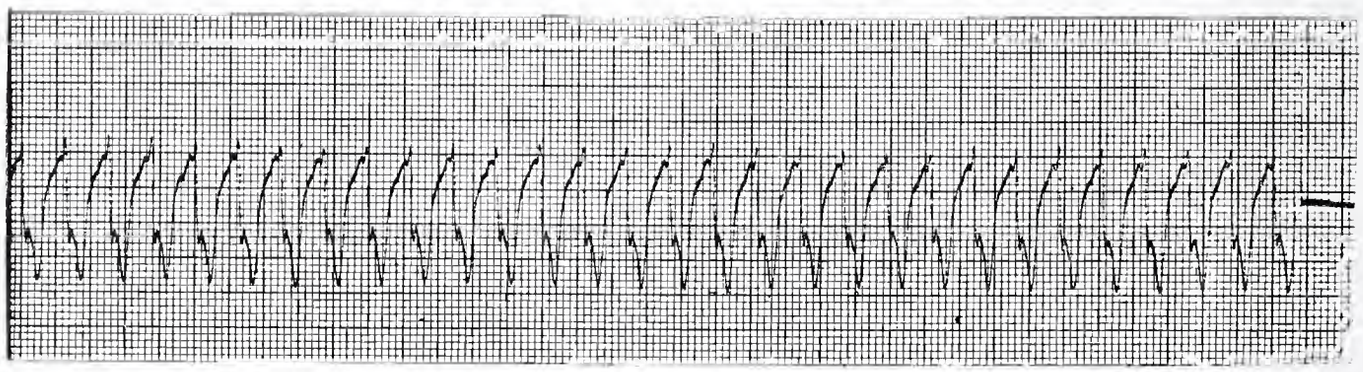
ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 477)

HISTORY: J. B. is a 49-year-old man who presented to the hospital because of syncope. He was admitted and accorded cardiac monitoring. Reproduced here are two rhythm strips obtained on the patient. What do you think about his mechanism?





Paul Baxley, M.D., and John W. Watson, M.D.
UAMS - LRVAMC Division of Cardiology
Little Rock, Arkansas



Office Orthopaedics

Low Back Evaluation Physician Motivation

H. Austin Grimes, M.D.*

All too often other physicians tell me they hate to treat back patients, many of whom they regard to be "fablers," etc. This attitude, which I must admit, I too was inclined to share early on in my practice, is the occasion for this article.

Successful treatment of back complaints must begin with redefining "success." It is not restoration of the normal but is the attainment of the maximum salvage possible under existing circumstances.

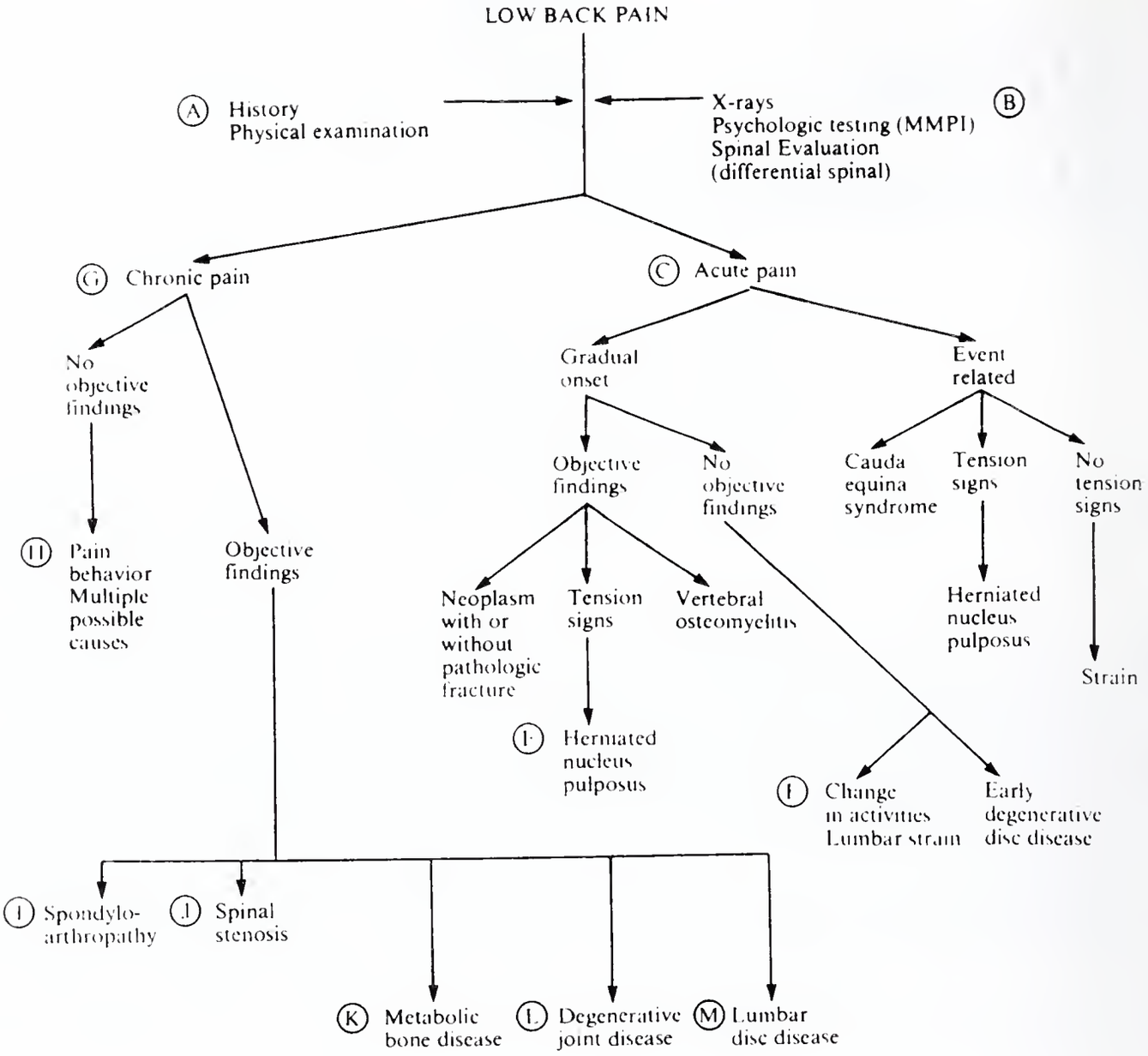
If you consider back complaints as symptoms arising from chronic arthritis with its many variations, then one has a concept which permits the problem to be better understood. Except for the muscle strains, most of which are mild and therefore never reach the physician's office, then back pain is actually arthritic in nature regardless of its then presenting stage. Degenerative joint (DJD) is ubiquitous and a herniated nucleus pulposus (HNP) is just one of the forms in which it may present.

Success, as defined earlier, of treatment of DJD with or without HNP depends on the stage of the disease and the methods used. Algorhithms can be used effectively and one copied from Bucholz, et al, suffices to give a basic approach to management of low back complaints.[1] An organized approach to the problem can help to circumvent the physician's self-imposed barrier to successful management. That is fundamental, but an understanding of the many facets of the patient's problems by the physician will require correlating basic knowledge of the mechanics of back disease with the inescapable psychological impact on the patient. There is no way to separate the two. As a consequence, many physicians (attorneys, insurance adjustors, rehabilitation people, employers, etc.) create an impediment to successful treatment.

I mentioned earlier redefining success. The fact that the patient will never return to normal may be discouraging to many physicians who are accustomed to a clearly defined end point in treatment of most other diseases. The back patient retains the potential for trouble at any stage. Recurrence of significant disabling complaints are encountered with enough regularity to be a threat to them for the remainder of their lives. How the patient copes with this threat depends to a great degree on the support and the understanding the physician offers in the course of management of the total problem. Even though remissions do occur, the persistence of the same degree of complaint of pain is not unusual. Some patients are reluctant to admit to differences in pain for various reasons.

Chronic low back pain can lead to personality changes that border on the psychotic. Before this occurs, a multidisciplinary approach should be secured. The magnitude of cost to industry and the individual is being recognized and has prompted a refreshingly concerted effort in management. However, to the guy in the trenches, (the treating physician) help in this sector may be delayed because of the cost for such services and because of the often unrequited hope that it will go away. Most physicians do not have the necessary training to evaluate all the facets of behavioral motivation, nor do they have the time

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to give these factors proper consideration. It, therefore, behooves us to become as efficient as possible in evaluating the back patient in the shortest period of time.

To assist in this effort, many physicians use a back history form[2] filled out by the patient which gives dates and other facts germaine to the presenting complaints. When complemented with a brief, but thorough, initial examination, the physician may acquire an early familiarity with the problem. I admit that experience permits more rapid attainment of this level of understanding, but the physician's desire to be most efficient in his approach is needed.

It often requires added effort on the physician's part, but a positive attiude and an encouraging approach to the patient goes a long way in establishing patient assurance — so necessary to "success"!

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PATIENT HISTORY FORM

Name: _____ Date: _____

Occupation: _____ Age: _____

1. When (roughly what date) did your present pain start? _____

2. How did it start? (Check appropriate box)
 - ☐ Lifting
 - ☐ Pulling
 - ☐ Twisting
 - ☐ Hit in the back
 - ☐ Fall
 - ☐ Auto accident
 - ☐ Bending
 - ☐ No accident

3. Your pain is worse in your: (Check appropriate boxes)
 - ☐ Back
 - ☐ Back and hip (s)
 - ☐ Neck
 - ☐ Down the leg (s)
 - ☐ Head
 - ☐ All of these
 - ☐ Arm (s)
 - ☐ None of these

4. How long have you been unable to work or do normal housework? _____

5. How long have you had any problem with your back, neck, legs, or arms? (Circle appropriate parts) _____

6. Your pain is: (Check appropriate boxes)

Better	Worse	No different	
☐	☐	☐	When coughing or sneezing
☐	☐	☐	Sitting in a straight chair
☐	☐	☐	Sitting in a soft easy chair
☐	☐	☐	Bending forward to brush your teeth
☐	☐	☐	When you wake up in the morning
☐	☐	☐	In the middle of the night
☐	☐	☐	Midday
☐	☐	☐	Lying flat on your back
☐	☐	☐	Lying flat on your stomach
☐	☐	☐	Lying on your side with your knees bent

7. Do you have to rest during the day because of your pain? (Check appropriate box)
 - ☐ No
 - ☐ Half the day
 - ☐ A little
 - ☐ More than half the day

8. Have you ever been in a hospital for back, leg, neck, or arm pain? _____
 Number of times: _____
 Give dates: _____

9. Have you ever had a myelogram (x-ray of the spine with dye injection), CT SCAN or MRI? _____
 Number of times: _____
 Give dates: _____

10. Have you ever had an electromyogram (EMG)? _____ Number of times: _____
 Give dates: _____

11. Have you ever had neck or back surgery? _____
 Number of times: _____
 Give types and dates: _____

12. Have you ever been in the hospital for other medical problems? _____ Number of times: _____
 Describe and give dates: _____

13. Do you exercise on a regular basis?
 - ☐ Yes
 - ☐ No

14. Please list the medicines you are currently taking: _____

15. What other medical problems do you have? (Check appropriate boxes)
 - ☐ Diabetes
 - ☐ Stomach problems, ulcer, etc.
 - ☐ Arthritis
 - ☐ Heart problems
 - ☐ Gout
 - ☐ Epilepsy (fits)
 - ☐ Cancer
 - ☐ Other

16. Please list any allergies you have: _____

17. Do you have an attorney helping you?
 - ☐ Yes
 - ☐ No

18. Do you want a report sent to your attorney?
 - ☐ Yes
 - ☐ No

19. Do other members of your family have significant back or neck trouble? _____
 Who (relationship)? _____

20. What treatments have made your pain better? _____
 What treatments have made your pain worse? _____

21. What is the most aggravating thing about your pain? _____

22. What brought you to this office? _____

23. Please add any other information you would like to include, or additions to your answers to previous questions. _____

Patient History Form - Page two

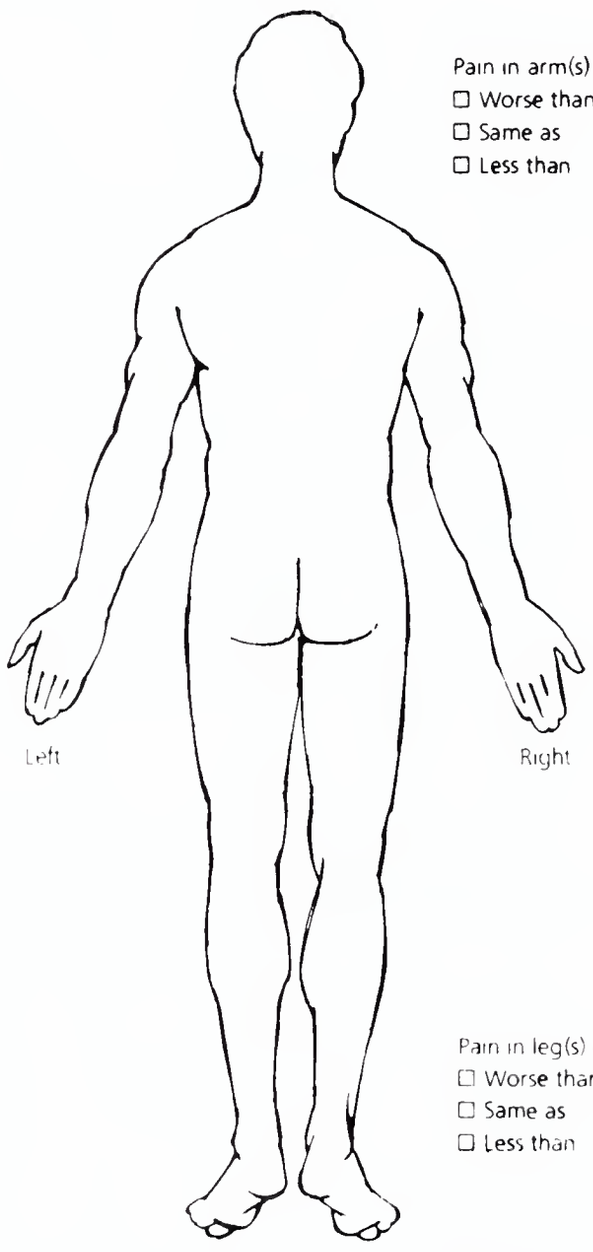
PATIENT PAIN DRAWING

Name _____ Date. _____

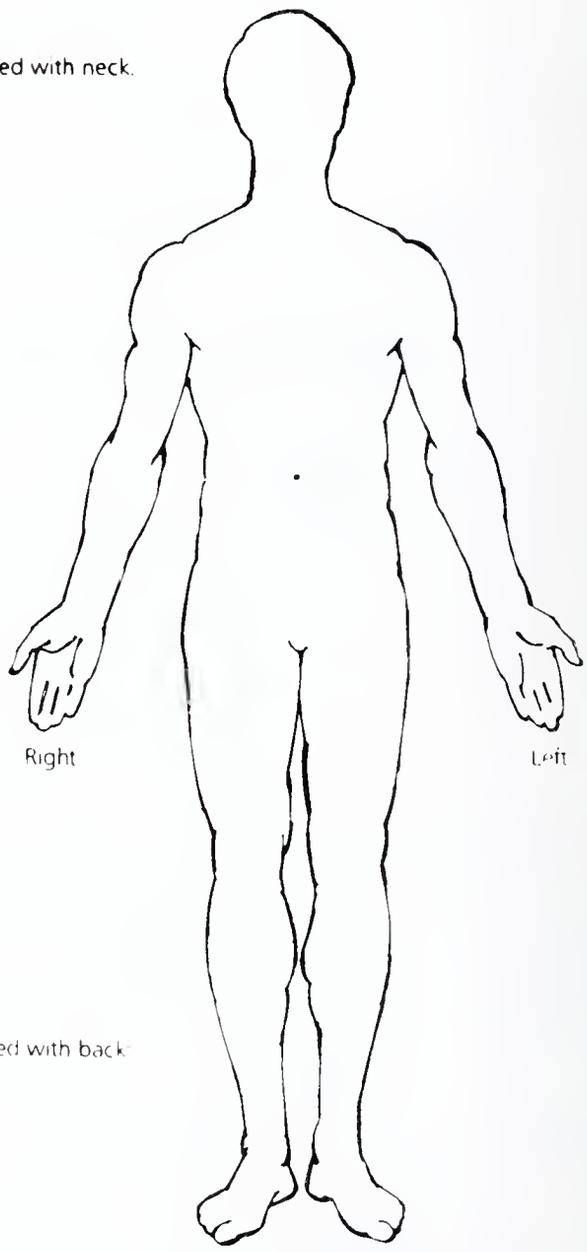
Using the symbols given below, mark the areas on your body where you feel the described sensations. Include all affected areas. Just to complete the picture, please draw in your face.

Aching	Numbness	Pins and needles	Burning	Stabbing	Other
▲ ▲ ▲	= = =	○ ○ ○	× × ×	/ / /	• • •

Back



Front



Pain in arm(s) compared with neck.
- ☐ Worse than
- ☐ Same as
- ☐ Less than

Pain in leg(s) compared with back.
- ☐ Worse than
- ☐ Same as
- ☐ Less than

Guidelines for Prescribers of Controlled Drugs

Don Phillips, P.D.*

These guidelines have been prepared under the auspices of the Drug Enforcement Administration (D.E.A.) and the DEA/Practitioners Working Committee and approved by the American Dental Association, American Medical Association, American Nurses Association, American Osteopathic Association, American Podiatry Association, American Veterinary Medical Association, National Institute on Drug Abuse, and the D.E.A.

The principles expressed in these guidelines constitute neither a pronouncement of law nor a code of ethics, and in no way supersede or be in conflict with statutes or ethical concepts governing the conduct of the various practitioners. Accountability is the responsibility of each discipline.

Separate laws relating to the distribution of controlled substances have been enacted in Arkansas. In many cases Arkansas drug laws are more stringent than federal law. These guidelines are an example of good practices which are encouraged under both federal and state laws and regulations. Close cooperation and understanding between the regulatory agencies and the prescribers of controlled substances will insure that legitimate drugs remain in legitimate channels.

GENERAL GUIDELINES

- Controlled substances have legitimate clinical usefulness and the prescriber should not hesitate to consider prescribing them when they are indicated for the comfort and well being of patients.
- Prescribing controlled substances for legitimate medical uses requires special caution because of their potential for abuse and dependence.
- Exercise good judgment in administering and prescribing controlled substances so that diversion to illicit use is avoided and the development of drug dependence is minimized or prevented.
- Guard against contributing to drug abuse through injudicious prescription writing practices, or by acquiescence to unwarranted demands of some patients.
- Each prescriber is asked to examine his/her individual prescribing practices to ensure that all prescription orders for controlled substances are written with caution.
- Make specific effort to ensure that multiple prescription orders are not being obtained by the patient from different prescribers.

GUIDELINES
PRESCRIPTION ORDERS

The prescriber is granted through legal authority the right to prescribe medications that are necessary for the proper treatment of his/her patients. Prescribing is governed by laws and regulations which set minimum standards and requirements. These guidelines, tempered with good moral and ethical considerations, give guidance to going beyond the minimum requirements.

- The prescription order must be signed by the prescriber when it is written. The prescriber's name, address, and DEA registration number and full name and address of the patient must be given when prescribing controlled substances.
- The written prescription order should be precise and distinctly legible to enhance exact and effective communications between prescriber and dispenser.
- The prescription order should indicate whether or not it may be renewed and, if so, the number of times or the duration such renewal is authorized.

 Prescription orders for drugs in Schedules III, IV, and V may be issued either orally or in writing and may be renewed if so au-

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thorized on the prescription order. However, the prescription order may only be renewed up to five times within six months after the date of issue.

A written prescription order is required for drugs in Schedule II. The renewing of Schedule II prescription orders is prohibited. Only in an emergency situation may oral orders for Schedule II drugs be accepted by a dispenser. Such oral orders must be followed up by a written order within 72 hours.

Controlled substances which are prescribed without indication for renewal cannot be renewed without authorization by the prescriber.

- Prescribe no greater quantity of a controlled substance than is needed until the next check-up.
- Try to make prescription orders alteration-proof.

When prescribing a controlled substance, write out the actual amount in addition to giving an Arabic number or Roman numeral in order to discourage alterations in written prescription orders.

Prescribers are encouraged to consider placing a number of check-off boxes on their prescription blanks which show amounts within which the prescribed amount falls, i.e., 1-25, 26-50, 51-100, over 100.

- Use a separate prescription blank for each controlled substance prescribed.
- The use of prescription blanks which are preprinted with the name of a proprietary preparation should be discouraged.
- When institutional prescription blanks are used, the prescriber should print his/her name, address, and DEA registration number on such blanks. Institutions should discourage the use of institutional prescription blanks for prescribing controlled substances. The prescriber should use his/her own prescription blanks in such instances.

The prescriber has the responsibility to inform patients of the effects of the prescribed drugs consistent with good medical practice and professional judgment. The patient has a corresponding duty to comply with the prescriber's directions for use of the prescribed medication.

Each of the professional organizations and the Department of Health has a responsibility to educate and inform the public on proper handling and use of controlled substances. The professions have responsibilities to themselves beyond legal minimum restraints.



Pediatric Update:

Current Perspectives in Infantile Apnea

Debra H. Fiser, M.D.,* and Gregory L. Kearns, Pharm. D.**

Few areas of pediatric medicine have evolved as rapidly in the last five years as the evaluation and management of infantile apnea. For this we can be grateful since we are all frequently faced with the dilemma of what to do with the infant who has just been found cyanotic and apneic in his crib by a distraught mother.

While approximately 80 children die each year in Arkansas from Sudden Infant Death Syndrome (SIDS; the leading cause of death in infants between one month and one year of age), there is no universally applicable scoring system or screening test to identify infants who will succumb to SIDS.[1,2,3] There are, however, some groups of patients who may be considered at increased risk for SIDS statistically. These groups include: (1) children who have experienced a previous "near-miss" episode; (2) infants who are premature; and (3) siblings of SIDS victims (Table I).

"NEAR-MISS SIDS"

While the term "near-miss SIDS" is being discarded in favor of more specific diagnoses, it does describe an infant who has experienced a spell of apnea, cyanosis, or pallor sufficiently frightening to prompt resuscitation efforts by parents or caretakers. The relationship between apnea or the "near-miss" and SIDS is not yet completely understood. While some episodes of apnea or "near-misses" may truly be aborted SIDS, it is unlikely that all such episodes are truly life threatening. Much confusion has arisen from such a definition which encompasses multiple diagnostic entities, especially when lumped in research endeavors.

When confronted with such a case, the goals become: (1) to make a specific etiologic diagnosis if possible; (2) to treat the underlying problem and to prevent recurrences when possible; and (3) to prevent serious consequences of hypoxia or death in the event of recurrences.

Serious consequences are common in the "near-miss" patient. Approximately 67% of infants with idiopathic sleep apnea or unexplained spells of "near-miss SIDS" will have at least one subsequent recurrence of apnea with cyanosis or pallor lasting 20 seconds or longer.[4,5] For this reason, it is important to consider seriously any such parental report and to proceed conservatively until the safety of the child can be assured. However, it remains to be seen how detrimental such recurrent episodes of hypoxia may be to neurobehavioral development or cardiopulmonary function.

Hospitalization with monitoring is mandatory for observation and evaluation.[5] Inapproximately 25% of the cases, a specific underlying problem can be diagnosed and efficiently treated.[6] In most other cases, the diagnosis once made will require preventive and supportive care. The diagnostic evaluation of such infants should focus on a few basic diagnostic criteria.

In an effort to tailor the diagnostic evaluation, a careful history is of paramount importance (Table II). Questions must be answered regarding the timing and events surrounding an episode, its severity (including intervention made to restore normal breathing), and historical factors of relevance (e.g. prematurity, infection, history of gastroesophageal reflux, etc.). Those children who have experienced an apneic, cyanotic episode during sleep are likely to have apnea which may be related to sepsis, anemia, metabolic disorders, hypoxia, immature respiratory control, airway obstruction, or central hypoventilation syndrome. In contrast, episodes which occur during wakefulness are more likely to be related to feeding or gastroesophageal reflux, laryngospasm, seizures, or arrhythmias. These divisions are not concrete nor mutually exclusive, but serve merely to provide a starting point for evaluation.

From the historical and physical data base, an individualized diagnostic approach should evolve. The initial laboratory data collection usually includes a CBC; urinalysis; blood culture; serum glucose, calcium, electrolytes; chest radiograph, EKG and room air blood gas. Additional studies

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such as lumbar puncture, EEG, CT scan, Holter scan, pneumogram, polysomnogram, or ventilatory response to carbon dioxide may be indicated after reviewing the history, physical findings, and screening laboratory data.

TABLE I

RISK OF SIDS

	# Cases/1,000 live births
General Population	2-3
Siblings of index cases	10
Prematures	10
Near-miss SIDS	20-30

IDIOPATHIC INFANTILE APNEA

Disorders of respiratory control (idiopathic infantile apnea) account for the largest single diagnostic entity within the group of "near-miss SIDS." The typical child will have an immature respiratory pattern characterized by excessive periodic breathing and short or prolonged central apnea.[7] (Central apnea implies an absence of any respiratory effort as opposed to obstructive apnea, in which efforts are made but are ineffectual in moving air into the chest because of some mechanical barrier to flow.) While this pattern is typical for apnea of prematurity, it may also be seen in the term infant as well. This abnormality is almost exclusively a problem during sleep. Accordingly, the diagnosis is usually made from analysis of the pneumogram, a relatively simple 12-hour sleep recording of the infant's respiratory (chest wall) excursion and heart rate. This test may be done noninvasively in the infant's home or at the hospital (Figure 1).[8]

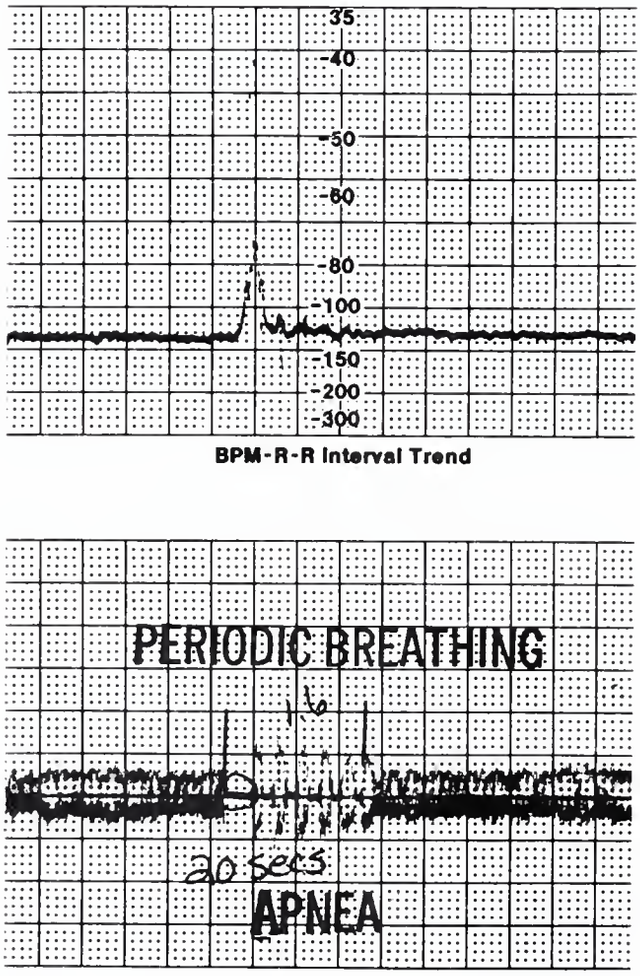


Figure 1.

This segment from a pneumogram reveals an episode of apnea lasting 20 seconds along with a segment of periodic breathing lasting 1.6 minutes. There is an associated drop in heart rate to a level of 40 beats per minute transiently.

Theophylline therapy is often beneficial for infants with frequent episodes of prolonged central apnea. Pharmacologically, theophylline increases the sensitivity of the respiratory center to carbon dioxide which in turn prevents the periodic breathing pattern and apnea.[9,10] Age specific guidelines for theophylline dosing in infants with apnea are summarized in Table III. Development of these guidelines and the resultant simulations of plasma theophylline concentrations were based on existing developmental pharmacokinetic data for theophylline in infants as summarized and reviewed by Aranda, et al.[11] These estimates of dose and dosing intervals (Table III) serve as age-specific points for the initiation of theophylline therapy for various pediatric age groups.

Since the serum theophylline level correlates with both efficacy and toxicity,[11] and the metabolism and excretion of theophylline markedly change within the first year of life, it may be necessary to monitor serum theophylline levels every 2 to 4 weeks during therapy. Prudent serum level monitoring will safeguard against the child "outgrowing" his theophylline dose as his body weight and/or drug disposition patterns change with increasing age. Fluctuations between the values for peak (Css max) and trough (Css min) serum theophylline levels within a dosing interval shown in Table III are desirable levels that should control or prevent apnea in the majority of children.[11]

For routine outpatient monitoring of serum theophylline concentrations, we recommend that levels be obtained immediately preceeding a scheduled theophylline dose (e.g., a trough or Css min value). As this value should be the lowest serum concentration within a dosing interval, it will provide valuable information particularly if the apnea is not well controlled on the current

dose. Apparent peak serum levels (i.e., obtained 1.5 to 2.0 hours following an oral dose) can be monitored, especially if an infant is exhibiting any of the following signs of methylxanthine intoxication: vomiting, increased feeding intolerance, tachycardia, markedly increased irritability and/or seizures. Peak and/or trough serum theophylline levels >15.0 μg/ml and <5.0 μg/ml, respectively, may be indicative that a theophylline dose or dosing interval change is warranted.

In addition to the clinical response, the adequacy of theophylline therapy may be assessed by a follow-up pneumogram, the results of which are correlated to a known serum level of theophylline. In the majority of cases, the laboratory abnormalities which characterize apnea or prolonged episodes of periodic breathing are ameliorated while on theophylline therapy.[9]

As an adjunct to theophylline therapy (or instead of it in the child with few symptoms), home cardiorespiratory monitoring is important for supportive care (Figures 2 and 3). After a child has been asymptomatic for 4-8 weeks while on theophylline, medication may be discontinued and a pneumogram repeated to assess maturation of respiratory control. If discontinuation produces no increase in symptoms with a normal pneumogram, then the cardiorespiratory monitor may also be discontinued. In summary, discontinuation of a home monitor implies resolution of the underlying etiology of the episodes, with a lack of symptoms objectively documented for 2-3 months (including symptoms associated with the stress of an upper respiratory infection or immunization). The duration of home monitoring averages 4.75 months.[12]

TABLE II
HISTORICAL QUESTIONS IN THE EVALUATION OF INFANTILE APNEA

Present Illness

1. Did the episode occur during awake time or sleep?
2. If during wakefulness, did the child remain awake or lose consciousness during the episode?



Figure 2.
The typical home cardiorespiratory monitor is lightweight, compact, portable, and simple enough for most parents to use without difficulty.

3. Was cyanosis or pallor observed during the episode?
4. Was bradycardia associated with the episode (if already on a monitor)?
5. Was the child making any attempt to breathe during the episode?
6. If so, was breathing associated with any unusual noise (e.g. stridor, gurgling)?
7. What was the muscle tone like during the episode—flaccid, stiff extended extremities, or tonic/clonic?
8. What was the duration of the episode prior to any intervention being made?
9. What intervention, if any, was made by the observer?
10. Was the child normal again after the intervention?
11. If not, describe the residual abnormality and the time lapse until the child returned to normal state.
12. Was the episode associated with milk or vomitus visible in mouth, nose, or on bed?
13. When was the last feeding prior the episode?

Past History

1. Was the child a product of term or premature gestation?
2. Were there any significant problems in the perinatal period?
3. Has the infant been ill prior to this episode (e.g. upper respiratory infection)?
4. Has the infant experienced other similar episodes? If so, when did they start?
5. Has the infant had any problems with feeding or symptoms consistent with gastroesophageal reflux previously?
6. Has the child accomplished appropriate developmental milestones for age?
7. Is there any family history of apnea, SIDS, or similar episodes?
8. Has the child experienced any problems after immunizations?
9. Is the child on any medication?

OBSTRUCTIVE APNEA

In other infants, airway obstruction resulting from anatomical (e.g., adenoidal hypertrophy) or functional (e.g., episodic laryngospasm) abnor-



Figure 3.

The foam belt of the impedance-type cardiorespiratory monitor is shown in place around the infant's chest with lead wires. The belt uses a Velcro® fastener and avoids the need for gels or stick-on type electrode pads for good contact.

malities may play a causal role. Obstructive apnea may be suspected from the history as it may occur during sleep or wake time. If the infant is awake during an episode, he may appear particularly anxious and may be struggling to move air while becoming progressively cyanotic. This often occurs with disorders such as laryngospasm. In struggling to breathe, the infant may extend and stiffen his arms and legs, a finding frequently confused with seizure activity. Simple stimulation may not be sufficient to terminate such an episode with more aggressive resuscitation sometimes needed.

The differentiation of central apnea from obstructive apnea requires more sophisticated testing with polysomnography. This study is a simultaneous polygraph recording (usually overnight) of parameters to identify sleep state (electroencephalogram, electro-oculogram, and electromyogram); to monitor motion of the rib cage and abdomen for quantitation of tidal volume (respiratory inductive plethysmography); electrocardiogram; ear oximetry; and occasionally other parameters such as esophageal pH (Figure 4). Episodes of obstructive apnea are indicated by paradoxical motion of the rib cage and abdomen with no significant motion of the sum volume signal.[13]

Once the diagnosis of obstructive apnea is made, the site of obstruction must be determined. Various diagnostic procedures may include ear, nose, and throat exam, airway fluoroscopy, barium swallow, bronchoscopy and laryngoscopy. While some anatomical obstructions are surgically correctable, other functional disturbances may respond to a course of theophylline or atropine therapy.[14,15] In some cases, laryngospasm may be due to temporal lobe seizure activity, a diagnosis made by recording EEG during an episode.[6]

FEEDING-RELATED APNEA

Feeding-induced near-miss SIDS episodes may present as "choking spells" or as obstructive apnea. In these infants a barium swallow is helpful to rule out incoordination of swallowing. Gastroesophageal reflux may cause symptoms via pulmonary aspiration or, more commonly, by laryngospasm (as described above), and may be associated with a normal chest radiograph.[16,17] The diagnostic evaluation for gastroesophageal reflux includes a barium swallow to rule out

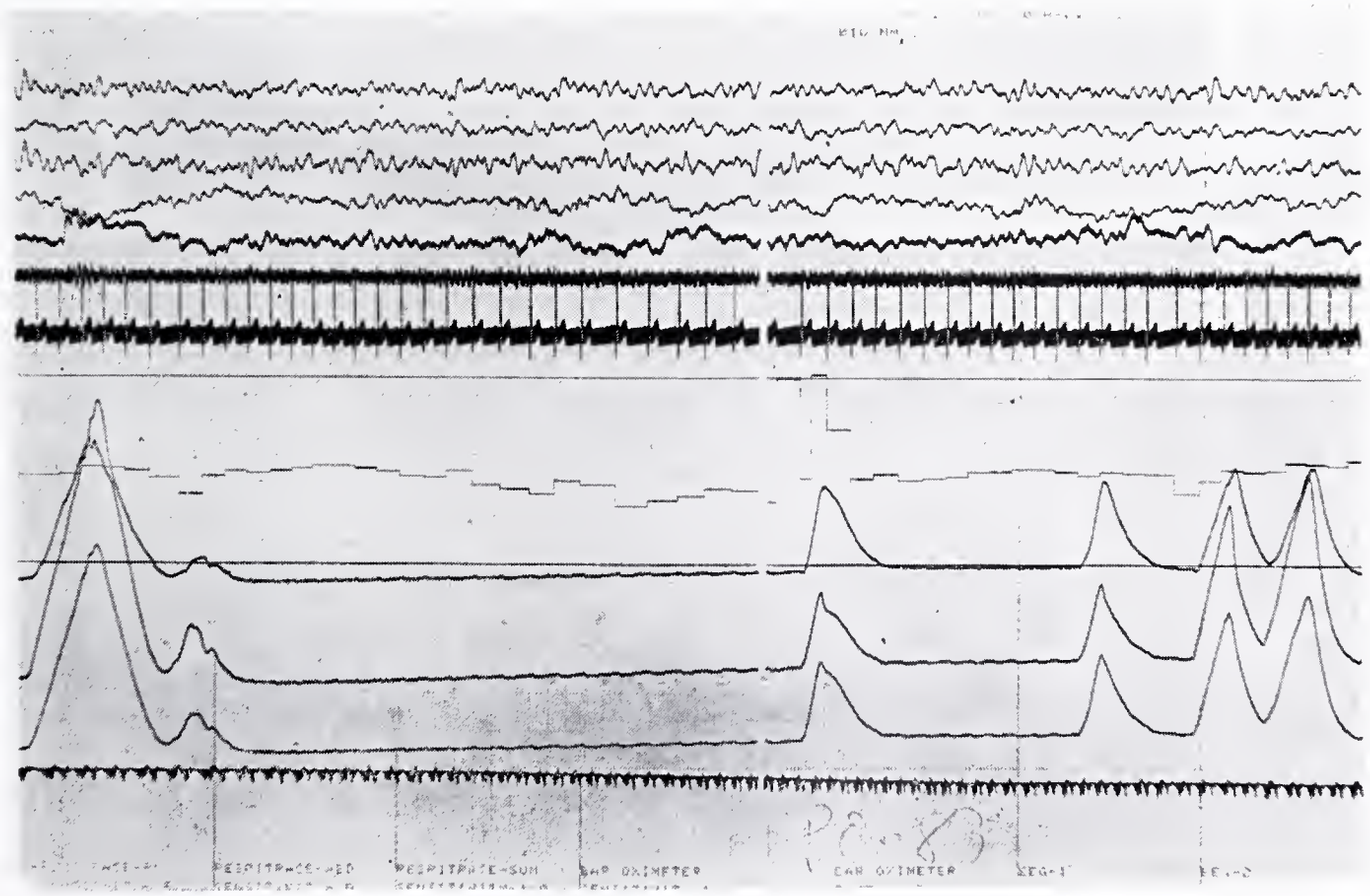


Figure 4.
This sample polysomnogram tracing illustrates an episode of central apnea lasting approximately 16 seconds associated with arterial desaturation to 83% and a transient fall in the heart rate. From top to bottom the channels recorded are: 1-3 Electroencephalogram, 4-5 Electro-oculogram, 6 Electromyogram, 7 Electrocardiogram, 8 Cardiotach, 9 Thoracic wall movement, 10 Abdominal wall movement, 11 Tidal Volume, 12 Saturation (ear oximeter). Each time interval marked is 5 seconds.

anatomical gastric outlet obstruction and a technetium scan to document functional delayed gastric emptying which may predispose a child to gastroesophageal reflux.[18] The definitive diagnosis of gastroesophageal reflux is made by examination of esophageal pH and quantitation of esophageal acid clearance during a 24-hour pH probe study.[19]

An aggressive approach may be needed in those children with severe gastroesophageal reflux to prevent aspiration with attendant respiratory arrest. While children with less severe symptoms and documented delayed gastric empting may be improved with supportive medical care, bethanechol, or metoclopramide therapy (in addition to home monitoring), those with a history of respiratory arrest associated with aspiration may require surgical correction.[16] It is important to appreciate that reflux can be found in some infants who have apnea but in whom gastroesophageal reflux is not causing serious symptoms. In this instance, the reflux and apnea may be manifestations of a generalized pathophysiologic process or developmental delay. In such children, treatment must be aimed at the true cause of the apnea and the gastroesophageal reflux should be treated conservatively.[20,21] Caution must be exercised, however, in the use of theophylline in infants with gastroesophageal reflux, as it, as well as other methylxanthines (e.g., caffeine), may predispose the child to reflux via a pharmacologic mechanism. Those patients with severe swallowing incoordination may require gastrostomy for feeding and/or tracheostomy for airway protection. These children often times may have some subtle neurologic handicap as the underlying cause of swallowing incoordination.

Another type of feeding-induced apnea or bradycardia is most commonly seen in the premature infant. These symptoms may appear as a consequence of hypoxia while sucking the bottle or breast and are often improved with supplemental oxygen provided during feedings. The diagnosis may be established with transcutaneous oxygen monitoring or oximetry during a feeding. This pattern typically improves with maturation of the infant.

MUNCHAUSEN SYNDROME

A word of warning is appropriate when symptoms and objective findings do not seem to match. Rarely, such cases are examples of the Munchausen syndrome by proxy.[22] The physician must keep an open mind to this possibility while remembering that this most commonly is a diagnosis made by exclusion. It is potentially dangerous to establish this diagnosis prematurely without a complete medical/physiological evaluation and some follow-up observation.

APNEA OF PREMATURITY

Discharge management of the premature infant

TABLE III

AGE SPECIFIC REVISED THEOPHYLLINE DOSING GUIDELINES FOR INFANTS WITH APNEA

Age Group	Dose (mg/kg) Load	Maint.	Dosing Interval (hr)	Desired Serum Concentration (ug/ml) Css max	Css min	Predicted Steady State Serum Conc. (ug/ml) Css max	Css min
3-15 days	4.0	3.5	24	12.0	7.0	11.2	7.0
1-2 months	4.0	4.0	12	12.0	6.0	12.0	8.8
2-4 months	4.0	3.5	12	12.0	6.0	11.7	7.5
4-5 months	4.0	4.0	8	12.0	6.0	11.0	6.4
6-12 months	6.0	6.0	8	14.0	6.0	13.8	6.1
1-4 years	6.0	6.0	6	15.0	5.0	12.8	6.3

— All plasma concentrations are expressed as ug/ml and desired concentrations were chosen from reported therapeutic range for apnea.

— Theophylline doses are denoted as loading dose (load) and maintenance dose (maint.).

— Pharmacokinetic modeling of plasma concentrations employed a one compartment open model with first order absorption ($k_a = 1.16\ h^{-1}$) and elimination. In the modeling of the predicted steady state concentrations, age speeifie values (mean) for T½ and the apparent volume of distribution were used.

— Simulated plasma theophylline concentrations are provided as estimates only. The observed concentration in a given patient will be influenced by those developmental, disease and pharmacologie factors which impaet on theophylline plasma clearance and therapeutic response.

— Css max and Css min represent "peak" and "trough" levels, respectively.

who may be at risk for subsequent prolonged apnea at home (whether symptomatic or asymptomatic) is described in the algorithm in Table IV. The 35 week gestation cutoff for evaluation is due to the 2.58 fold increased risk of SIDS under 35 weeks gestation, a 1.3 fold increased risk between 35 and 37 weeks, and no increased risk after 37 weeks.[23]

SIBLINGS OF SIDS VICTIMS

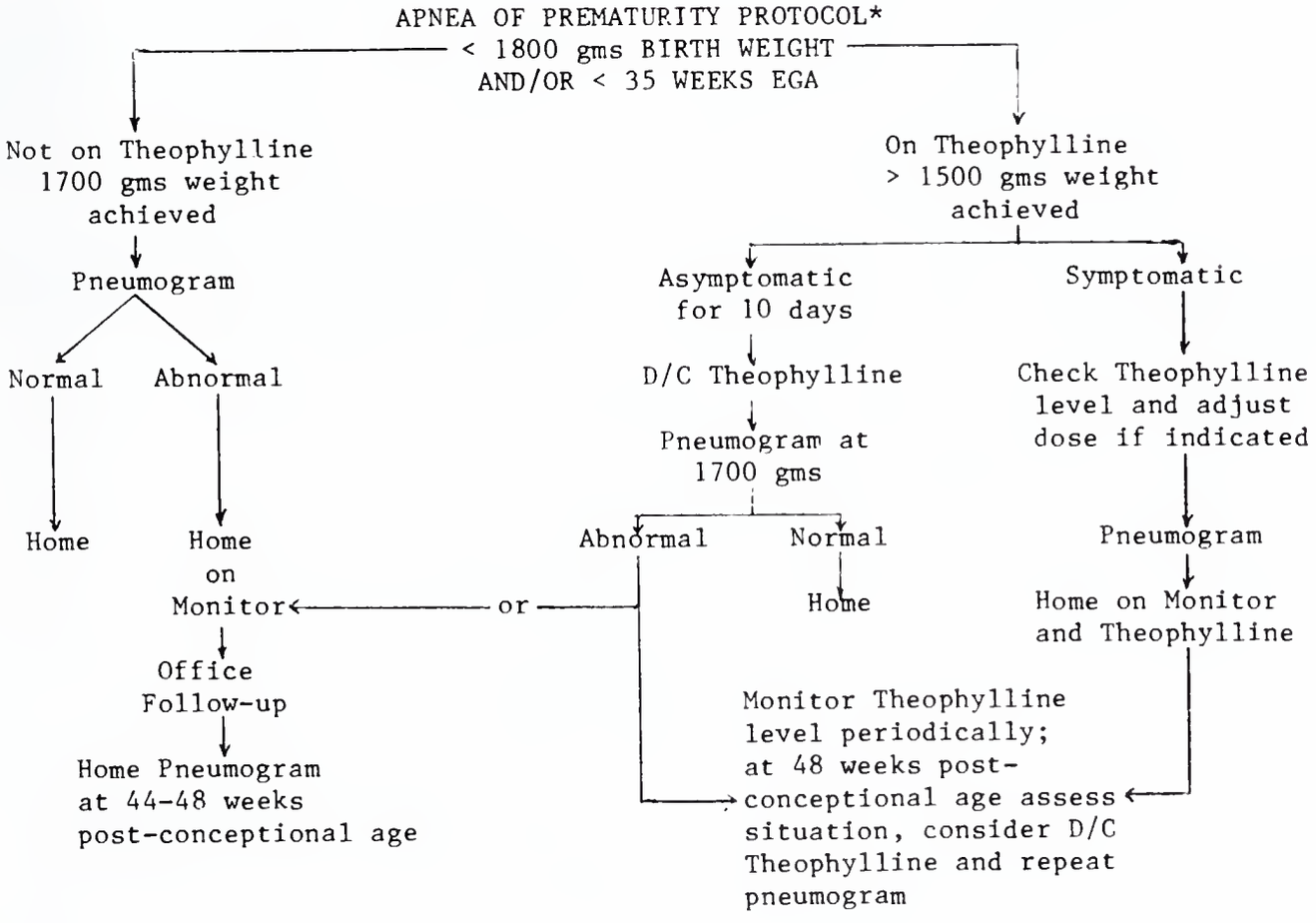
A suggested protocol for management of the SIDS sibling is shown in Table V.

HOME MONITORING

Once a decision has been made in favor of home monitoring, an appropriate monitor should be prescribed. There are several small, simple-to-operate monitors currently on the market for rental or purchase. The cardiorespiratory monitor is recommended in lieu of the older apnea pad design which is not suitable for the child who may scoot or roll off of the pad. In addition, the bradycardia alarm on the newer monitors provides an added dimension of security in alerting families to serious obstructive events which cannot be detected solely by the respiratory independence technique presently in use.[24] Some of the newer models of monitors also have tachycardia alarms which can be quite useful in the child on maintenance theophylline therapy. An additional feature found in some models is portability permitted by the inclusion of a battery pack which allows a child to nap safely outside of the home.

Typical initial settings for home monitors are 15-20 second delay for the apnea alarm and 60-80 beats per minute for the bradycardia alarm (the higher heart rate setting recommended for neonates). It is important to recognize false bradycardia alarms precipitated by benign sinus ar-

TABLE IV.



* Other conditions necessitating home monitoring (such as BPD, near-miss SIDS, CNS problems) may require longer periods of monitoring than this protocol would afford.

rhythmias or wandering atrial pacemakers. A feature on some models actuates the alarm only if three consecutive beats are below the set rate, alleviating some of the "nuisance" alarms.

Prior to discharge with a home monitor, several important issues must be addressed with parents. They must first be taught how to setup and use the monitor, including basic instruction on troubleshooting (e.g. loose leads, worn out electrodes, etc.). Next, they are instructed how to respond to an alarm. They are taught to observe the child when they arrive at the bedside for breathing and color (cyanosis, pallor, etc.) and to notice the duration and type of alarm prior to intervention. If the child is not breathing, a graded response is recommended starting with gentle, followed by more vigorous stimulation if needed. Cardiopulmonary resuscitation is instituted if stimulation does not restore respiration. Fortunately, the majority of episodes may be terminated by gentle tactile stimulation. Parents and babysitters are given the opportunity to practice resuscitation on an infant mannekin until parents and their instructor feel secure that they can handle an event in an acceptable way. Parents are requested to keep a log sheet (Table VI) of all alarms to bring to clinic for follow-up visits. If alarms increase in frequency or severity, they are instructed to contact the physician immediately. A few children will require re-hospitalization for "clusters" of episodes precipitated by infection, for example, or for additional evaluation.

Parents continue to need solid technical backup for mechanical problems as well as medical supervision and psychosocial support. The stress of having a child on a monitor can be greatly minimized with adequate support and by providing some respite care.[12,25]

ACKNOWLEDGEMENTS

We gratefully acknowledge the technical assistance of Dr. Ronald Kluza in the performance of the theophylline pharmacokinetic simulations and the skillful secretarial assistance of Monarie Carraro and Penni Jacobs in the preparation of our manuscript.

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TABLE V.

Protocol for Management of SIDS Sibling

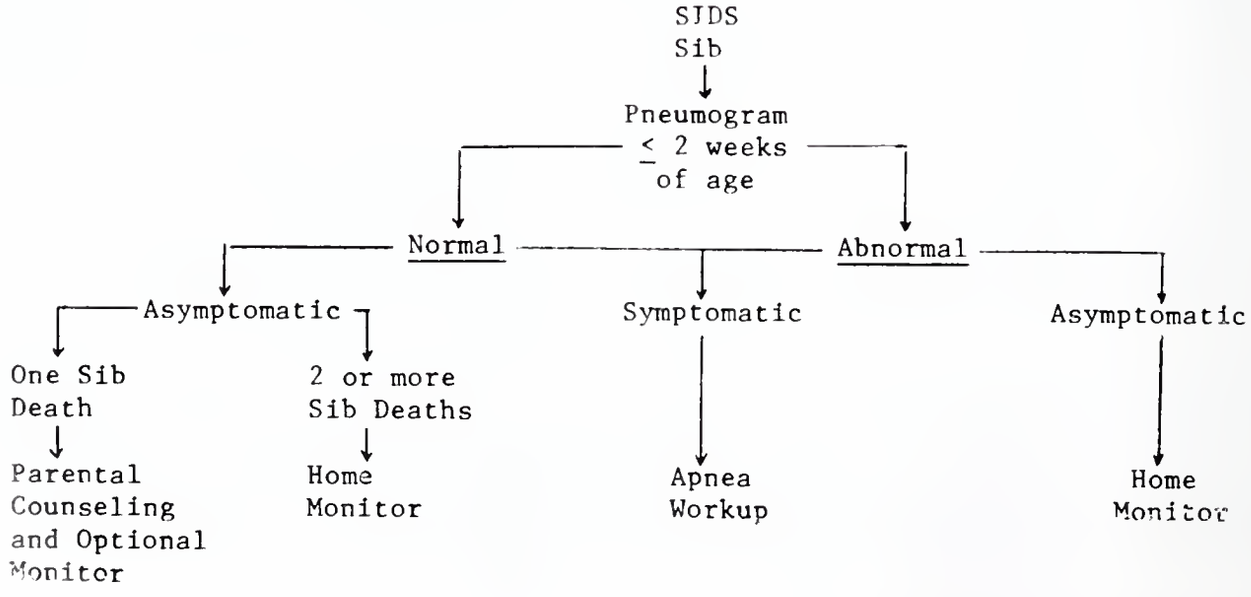


TABLE VI.

L O G

DATE TIME	WHICH ALARM?			WHAT WAS BABY DOING?			WAS BABY BREATHING?	WHAT WAS HEART RATE?	COLOR			WHAT WAS NEEDED TO STIMULATE BABY?	COMMENTS
	Apnea	Brady Cardia	Both	Awake	Asleep	Feeding			Blue	Pale	Normal		

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Surgical Overview:

Clinical Uses of the Tensor Fascia Lata Myocutaneous Flap

J. Michael Stair, M.D., and Paul M. Petty, M.D.*

Open, infected, or non-healing wounds may be an extreme burden for patient and physician. Some wounds cause extreme morbidity and may in fact, threaten life and limb. Wound closure should be obtained in an expedient manner to lessen the risk of mortality and morbidity and to optimize hospital stay and costs. Wound coverage has, at times, confounded and frustrated the most astute and patient physician. Advances in medicine and surgery as well as an increase in trauma have actnally compounded the complexity and difficulty of wound coverage.

Optimal wound coverage should be reliably performed, heal rapidly, be durable, provide adequate function and minimize hospitalization. Optimal coverage is not always possible, but these goals should be kept in mind. Wound coverage is best achieved by autogenous tissue. Foreign material such as cloth and plastic are usually inferior to the patient's own tissue and are contraindicated in the face of any infection.

A simple split-thickness skin graft will frequently provide wound coverage and allow for wound contracture. However, a skin graft is not applicable to all wounds. The bed upon which the skin graft is placed must have a very low bacterial count in order to succeed and the subsequent coverage is one that has none of the appendages found in normal skin which should keep it well lubricated and resistant to breakdown. An irregularly contoured recipient bed or poor blood supply may also mitigate against successful skin grafting for some wounds. The cosmetic and functional results after coverage (especially in wounds extending across joints such as the hip) may point to methods other than skin grafting for wound closure.

The random skin flap is also a possibility for wound coverage. The viability of a random flap depends upon collateral vasculature in the sub cutaneous and subdermal tissue and this may require a large flap with a wide base. The donor site usually requires a skin graft for coverage. Recipient site requirements for random flaps are similar to that for skin grafts. The random flap like the skin graft should not be used in an infected field.

A myocutaneous flap such as the tensor fascia lata flap brings its own blood supply.[1] Resistance to infection is a well-vascularized myocutaneous flap far exceeds that of a skin graft or random flap and, in fact, approaches that of normal tissue.[2] Myocutaneous flaps have become the coverage of choice in chronically infected wounds such as decubitus ulcers and areas involved with osteomyelitis.[2-7] This article will outline some of the clinical uses of the tensor fascia lata myocutaneous flap.

The tensor fascia lata (TFL) lies on the lateral aspect of the thigh. It is a small, thin, flat muscle supplied by the lateral circumflex femoral branch of the profundus femoris artery. This artery usually enters the muscle 8-10 centimeters below the anterior superior iliac spine. The TFL is an expendable abductor and medial rotator of the thigh whose origin is on the outer lip of the iliac crest and insertion is on the iliotibial tract. The overlying skin is supplied by vessels perforating the TFL and the available skin island is actually much larger than the TFL itself. Since the TFL is expendable and its blood supply enters the muscle quite proximally, it can be used widely on the lower abdomen, groin, anterior or posterior thigh, and buttock for wound coverage.[4-7]

TABLE 1

PRESSURE SORES
EXPOSED VASCULAR GRAFTS
INFECTED HIP WOUNDS
RADIATION DAMAGED TISSUE
ABDOMINAL WALL RECONSTRUCTION
DORSUM OF HAND
EXTENSIVE SOFT TISSUE DEFECT
DUE TO TRAUMA

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Table 1 lists some of the situations in which the TFL flap could be useful. These situations may involve chronic infection, ischemia or loss of a large area of soft tissue and, therefore, coverage which brings its own blood supply is ideal.

The complete management of pressure sores with the TFL flap involves the complete management of the patient and is beyond the scope of this paper; however, some important points will be stressed. Pressure sores usually occur in neurologically impaired patients and are due to unrelieved pressure over a bony prominence. The three most common areas involved in pressure necrosis are over the sacrum, the ischial tuberosities and the greater trochanter of the femur. The greater trochanteric area is most often involved in a quadriplegic patient and is the area most amenable to coverage with a tensor fascia lata flap.[3-6] Although the TFL flap may also reach to cover the ischial tuberosity in some patients, it should be considered a second or third choice for coverage in this area.

Briefly, adjunctive modalities are just as important as the myocutaneous flap itself in treating a pressure sore. Debridement of necrotic tissue and especially the bony prominence is basic. Control of wound and urinary sepsis, bowel control (this may even require colostomy), control of pressure with specialized beds, control of muscle spasm and improving nutritional status are all important to successfully manage the pressure sore. Specialized padded equipment and patient education to prevent recurrence and management of depression or drug addiction are critical to the success of coverage for a decubitus ulcer. A technically perfect operation can fail miserably if these adjunctive measures are ignored.

The increased use of vascular grafts leads to more frequent discovery of problems associated with grafts. An exposed vascular graft, usually seen in the groin, is a devastating complication which threatens the limb and life of the patient. If the graft is infected, it should be removed and consideration given to a so-called "extra-anatomic" bypass through clean tissue if revascularization is deemed necessary for limb salvage. A clean graft may be covered with a wide variety of local muscle or random flaps, but the TFL flap may provide ideal coverage. The TFL flap carries bulk and skin, is large enough to cover the exposed graft and its feeder artery is almost never involved with atherosclerotic disease.[1]

Large areas of tissue damaged by trauma (e.g., shotgun blast) or radiation may also be well served by the TFL flap. Groin breakdown after regional node dissection and radiation is fortunately rare, but when it occurs it may be amenable to treatment with a TFL myocutaneous flap. Indeed, a myocutaneous flap is the preferred method to cover radiation necrosis. The TFL flap may also be useful in some lower abdominal wall defects.[8-10] The defect after excising a desmoid or other tumor, irregular or large incisional hernia and even recurrent groin hernia[11] are problems which may include the tensor fascia lata as a free or myocutaneous flap as part of the solution.

Excision of the proximal femur may be required for an infected hip endoprosthesis or a septic hip joint. In many patients wound coverage is best achieved with a vastus lateralis muscle flap but a few patients may benefit from a TFL flap. A TFL flap may also be useful to cover the dorsum of the hand, perhaps as a tubed pedicle flap.[7]

Once the decision is made to perform a TFL flap, technical points of the procedure, preoperative and postoperative care need to be considered as well as the previously mentioned adjunctive measures. Adequate debridement cannot be overemphasized but the location of the blood supply to adjacent tissues must be borne in mind during debridement. A skin graft may occasionally be necessary to cover the donor site of the TFL flap, therefore the patient should be positioned and draped accordingly. Closed suction drainage under the flap is essential since hematoma and ischemia are the most common reasons for flap failure. Avoidance of pressure over the flap, maintenance of nutrition and control of any septic focus are also important aspects of care.

SUMMARY

The tensor fascia lata myocutaneous flap has a useful role in the management of wounds near the groin, hip and buttock. Areas having poor blood supply or chronic infection may be amenable to coverage by myocutaneous flaps such as the tensor fascia lata flap.

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ANSWER—Electrocardiogram of the Month

DISCUSSION: The upper rhythm strip shaws atrial flutter with atrial rate 250 per minute. Ventricular conductian is variable in the tap strip, ranging fram 9:1 ta 7:1, yielding a ventricular rate fram 28 per minute ta 36 per minute. The lawer strip shaws a regular tachyarrhythmia of 250 beats per minute. One must suspect that this strip shaws atrial flutter with 1:1 conduction.

The feature editar wishes to thank Dr. Baxley far his assistance with this manth's ECG.



EDITORIAL

Osteopenia of Aging

Alfred Kahn, Jr., M.D.*

Bony changes that occur in older individuals are a frequent cause of pain and disability. Two of the most important osteopenic states are the loss of bone mineral density due to senility and that due to post-menopausal osteoarthritis. They differ as an interesting article by Riggs, Wahner, Seeman, Offord, Dunn, Mazess, Johnson, and Melton point out in the *Journal of Clinical Investigation* (Volume 70, Page 716, October, 1982). They studied "Changes in Bone Mineral Density of the Proximal Femur and Spine with Aging." This is important because of the frequency of the collapse of vertebrae and fractures of the long bones, as the femur. The authors used the I125 absorptiometric technique on the radius and they used dual photon absorptiometry on the lumbar spine and femur. They used various sites. They report that "for normal women, the regression of bone mineral density on age was negative and linear at each site; overall decrease during life was 58% in the femoral neck, 53% in the intertrochanteric region of the femur, and 42% in the lumbar spine. For normal men, the age regression was linear also; the rate of decrease in bone mineral density was ⅔ of that in women for the femoral neck and intertrochanteric femur, but only ¼ of that in women for the lumbar spine." In the review by Riggs, et al, he came to the conclusion that there were at least two distinct types of bone thinning. First was post-menopausal osteoporosis which was characterized by a very marked loss of trabecular bone; it tended to be present in the years immediately after the menopause and was a frequent cause of fractures of the vertebrae. The other type of osteopenia was described as being senile osteoporosis. This was seen in both men and women and was characterized by a decrease in both trabecular and cortical bone. This tended to appear in an aged group and it caused fractures of the long bones as well as fractures in the spine. It is of interest that the authors state that Fuller Albright and E. C. Reifenstein, Jr. many years ago reported that there seemed to be two types of loss of bone density in the aging population—and this was not a well accepted idea by many investigators. The authors' work here tends to substantiate Albright and Reifenstein using the methods noted above.

Taggart, Chesnut, Ivey, Baylink, Sisom, Huber, and Roos have published an interesting article in *The Lancet* entitled "Deficient Calcitonin Response to Calcium Stimulation in Postmenopausal Osteoporosis?" (Volume I, Page 475, February 27, 1982). The authors were interested in the cause of osteopenia after the menopause. This obviously could be the result, as they point out, of decreased bone formation, excessive bone destruction, or a combination. Calcitonin was the hormone they were principally interested in, and in previous papers other authors had pointed out that there did not seem to be much difference in immunoreactive calcitonin blood levels in post-menopausal women with osteoporosis and perfectly normal women in similar age groups without osteoporosis. The authors tested 10 normal women between 57-80 years of age and compared them with 17 women between 57-80 years of age who showed typical post-menopausal osteoporosis. The controls are said to have shown perfectly normal studies pertaining to bone, including calcitonin hormone, parathyroid hormone, regional bone mass, total body calcium, etc. The women with osteoporosis were also examined. The women were then given an infusion of calcium after which studies of blood chemistries and calcitonin were made. The control showed a considerably better response of plasma calcitonin to a calcium challenge than did the osteopenic women. The serum calcium in the two groups showed a slight difference—calcium was higher in osteoporotic

women. Thus, there seems to be a difference in the way osteoporotic women handle calcium and calcitonin & normal controls in the same age. Based on this, it would be worthwhile to give calcitonin to women with osteoporosis who are post-menopausal.

An interesting article pertinent to space flight is entitled "Calcium Homeostasis in Immobilization: An Example of Resorptive Hypercalciuria" by Stewart, Adler, Byers, Segre, and Broadus (*New England Journal of Medicine,* Volume 306, Page 1136, May, 193, 1982).

The authors point out at the outset that immobilization is known to produce hypercalciuria and hypercalcemia. It is associated with a reduction in the skeletal mass. This was studied considerably during World War II by putting some conscientious objectors to bed for several months at a time. Currently it is of importance because there is a similar reaction in astronauts during space travel. The big question is not whether this occurs or not—it has been proved to occur—but why does it occur? The authors studied 13 patients immobilized by traumatic spinal cord disease (they could have studied polio victims, skeletal fractures, etc., as well, but did not). It was their opinion that the patterns of osteopenia in these individuals was that of resorptive or bone derived hypercalciuria; they further felt that this was due to suppression of the parathyroid-1,25-dihydroxyvitamin D—this was based on elevated calcium studies, increases in serum phosphorous, etc. They postulate that a decrease in parathyroid induced calcium in the kidney and the reduced manufacture of 1,25-dihydroxyvitamin D is a protective mechanism to avoid hypercalcemia. It is further stated that in immobilized cases, calcium absorption from the gastro-intestinal tract is decreased. The authors conclude with a nice summary in which they state that hypercalciuria occurring from immobilization is accompanied by a suppression of parathyroid hormone secretion; they further state that restriction of dietary calcium is of no value in this situation. They acknowledge the cause of this disorder is really unknown.

New technical devices often introduce new problems to human beings who are the beneficiaries of the device. Many people's lives are saved by dialysis, but one of the side effects of dialysis is renal osteodystrophy. The cause of this disorder is the subject of a paper by Ott, Maloney, Coburn, Alfrey, and Sherrard (*New England Journal of Medicine,* Volume 307, page 709, September 16, 1982). The authors' attention was drawn to this problem by a paper written by another author who found that aluminum might play a role. The authors developed a histochemical stain for aluminum in bone. Using this instrument, they studied bone from individuals with renal osteodystrophy and found that the staining technique correlated with atomic absorption studies. In their conclusion, they state that no aluminum was seen in known renal bone diseases, whereas in renal osteodystrophy there was stainable aluminum. They felt that the aluminum deposition was definitely associated with impaired bone formation. Calcitriol did not seemingly have a beneficial effect on patients whose bones showed pure osteomalasia. If there was fibrosis and osteomalasia, Calcitriol seemed to work well. Ott, et al, feel that aluminum definitely impairs bone formation in the surface of the bone, but they also state it may act indirectly by suppressing parathyroid hormone.

J. C. Stevenson and M. I. Whitehead have reviewed post-menopausal osteoporosis in the *British Medical Journal* (Volume 285, page 585, 28 August-4 September, 1982). They have an interesting chart at the outset of their article showing the causes of osteoporosis in adults, including post-menopausal, senile, hyperparathyroidism, hyperthyroidism, hypercortisolism, hypogonadism, myelomatosis, metastatic carcinoma, reticuloendothelial disorders, connective-tissue disorders, drugs, and immobilization. They concur that the common cause in many older people are those of age and those due to post-menopause. In men who have osteopenia, they state, the osteopenia of aging is due to decreased bone formation, whereas in most post-menopausal women osteopenia seems to be related to faulty bone absorption; estrogens seem to prevent the osteoporosis which occurs after the menopause. It is postulated that part of the post-menopausal problem may be increased skeletal sensitivity to bone resorbing hormones inasmuch as the concentration of parathyroid hormone and 1,25-dihydroxyvitamin D are normal. They further state calcitonin may mediate some of these changes in the following manner: When the ovaries fail, there is a decrease in secretion of calcitonin and, as they further state, the action of the bone resorbing hormones are unopposed. Of course, the principal problem of

loss of bone density is fracture of the vertebrae and the long bones. Stevenson and Whitehead warn that no treatment really can reduce the bone mass in osteoporosis; thus, the best treatment is prevention and it may take years of treatment to avoid a severe osteopenia.

Bone loss is an interesting and important topic because of the frequency of fractures resulting from old age and post-menopausal osteopenia.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Journal of the Arkansas Medical Society
Vol. 4 No. 4 Oct., 1893 p. 170-171
County Societies.

Some Signs of Returning Life.

As the first sign of awakening from the long slumber of the County Medical Societies, The Journal was delighted to receive the following:

"1889. Prairie County Medical Society. 1893.

"Fourth Semi-Annual Meeting

"To be held at DeVall's Bluff, Arkansas,

"On 25th and 26th of October, 1893.

"Officers—J. T. Bell, M.D., President; F. A. Hipolite, M.D., Vice-President; J. R. Lynn, M.D., Secretary; W. P. Owen, M.D., Treasurer.

"Committee of Arrangements—W. P. Owen, M.D., W. W. Hipolite, M.D., and F. A. Hipolite, M.D., DeVall's Bluff, Arkansas.

"Programme.

"Address of Welcome, by Col. W. D. Rice, DeVall's Bluff, Arkansas.

"Response, by B. W. Flinn, M.D., Des Arc, Arkansas.

"First Paper—Sequelae of Chronic Malarial Toxaemia, by W. W. Hipolite, M.D., DeVall's Bluff.

"Second Paper—Dysentery, by W. P. Owen, M.D., DeVall's Bluff.

"Third Paper—Hepatic Calculi, Unusual Frequency in this Vicinity—Pregnancy as an Exciting Cause. Report of cases, by G. E. Pettey, M.D. Des Arc.

"Fourth Paper—Threatened Abortion. Report of case, by G. E. Pettey, M.D., Des Arc.

"Fifth Paper—Nitro-Glycerine in the Treatment of Heart Failure, by B. W. Flinn, M.D., Des Arc.

"Sixth Paper—Complications in Pelvic and Abdominal Surgery, and How to Deal With Them, by J. R. Lynn, M.D., Des Arc.

"General Discussion—What Is to Be the Future Destiny of the Prairie County Medical Society?

"Let every member be present and respond. All regular physicians and surgeons are cordially invited to attend this meeting.

J. R. Lynn, M.D., *Secretary.*

"Des Arc, Arkansas."

The Prairie County Society always sends out notices and programmes long before the time of meeting, so that members may come prepared for intelligent and deliberate considerations of the subjects to be presented. The Society must be prospering, and The Journal congratulates the Prairie County physicians on their industry and perseverance.

MEDICINE IN THE NEWS

THE MONTH IN WASHINGTON

Post-Election Wrapup

President Reagan's landslide victory is unlikely to make a major difference in physicians' professional lives as both the newly-elected Congress and the returning administration continue to chip away at costs in an industry that is seen as a key part of any effort to reduce the federal deficit.

Presidential advisers are terming the vote a mandate for continuation of Reagan policies which appears to signal a continuation of efforts to reduce spending for social programs—including Medicare and Medicaid.

Others contested the contention that the President has won a mandate and pointed to the President's failure to convince the voters to give him a "working majority" in the Congress.

The GOP regained only 14 of the 26 seats that it needed to restore a coalition of Republicans and conservative Democrats that combined to push major Reagan initiatives through Congress before the mid-term election reduced Republican numbers in the House. The Democrats will have a 71 seat majority. In the Senate, Republicans retained control but Democrats picked up two seats, reducing the Republican edge in that body to 53 to 47 in the new 99th Congress.

Thus, while the President can expect a slightly more cooperative House of Representatives, his support in the Senate has been slightly diminished. Although the Democratic to GOP balance on House committees may be minimally altered, the shift is not expected to have a major impact on control of the committee process by Democrats.

Perhaps the major change resulting from the elections is the retirement of Senate Majority Leader Howard Baker and the ascension of Kansas Republican Robert Dole to the leadership post. Dole has a reputation for speaking back to the White House and under his guidance, the Senate could prove more independent than under Baker.

Dole will be relinquishing his key chairmanship of the Finance Committee to Senator Robert Packwood, a moderate Republican, who has sometimes been regarded as a maverick. He has generally supported and been supported by organized medicine.

As head of the Senate Commerce Committee, however, Packwood did oppose the American Medical Association's effort to eliminate Federal Trade Commission controls over the professions. He is an opponent of taxes on employer-paid health insurance premiums and of restrictions on a woman's right to an abortion.

Most other important transformations in Congressional panels with jurisdiction over health legislation also occur as a result of retirements. On the House Ways and Means Committee, two Democrats—James Shannon of Massachusetts and Kent Hance of Texas—are retiring. So are Republicans Barber Conable of New York and Jim Martin of North Carolina. In line to step up to the widely-respected Conable's ranking minority spot is John Duncan (R-TN) who has been a friend to health providers but may not have the influence Conable did.

On the House Energy and Commerce Committee, three seats are changing. New York Democrat Richard Ottinger and Illinois Republican Tom Corcoran retired. Tennessee Democrat Albert Gore Jr. will move to the Senate where he won the seat of retiring Senate Majority Leader Howard Baker (R-TN). Gore, who frequently used his post on the Oversight and Investigations subcommittee to conduct hearings into controversial medical issues, played a major role in the passage of an organ transplant bill that was initially opposed by the American Medical Association but was modified in later Congressional deliberations.

Other Senate changes of some interest to the health industry include the retirement of West Virginia Democrat Jennings Randolph who served on the Labor and Human Resources Committee and the defeat of Republicans Charles Percy (IL) and Roger Jepson (IL). Randolph had backed the National Health Service Corps, community health centers and other programs to aid his depressed state. Percy, had chaired a Governmental Affairs Subcommittee, that occasionally

dealt with health issues. Jepson had headed the joint economic committee which also sometimes took up health matters.

* * * *

Budget Cuts Planned For Health

Among a host of health-related budget proposals Reagan Administration health and budget advisers are pondering for fiscal 1986 is a continuation of a Medicare freeze on physician fees.

All budget discussions at this point are in preliminary stages and White House officials say no mechanics of a freeze have been worked out. It is not even clear, for instance, that the freeze would cover all physicians. Nor have any final decisions been made on which of a laundry list of possible health program cuts will be included in the plan the President will send to Congress in late January or early February. But the President has told his staff that deep cuts will be made in all discretionary programs and a freeze on all government programs except Social Security.

In addition to the physician fee freeze, a variety of other previously-offered administration health budget initiatives are expected to be on the platter for next year as well. These include a number of recommendations from the conservative Heritage Foundation, which has close ties to the administration, as well as some that Congress has rejected in the past.

The Heritage Foundation, which has distributed a thousand-page report to the Regan cabinet, wants to "modify" Medicare's diagnosis related groups price controls through the addition of provisions intended to enhance market competition.

All were offered in the President's first term but never garnered adequate support in Congress. They include a proposal to improve Medicare coverage for catastrophic illness while increasing cost-sharing for shorter hospital stays; Medicare vouchers; and a tax on employer-provided health benefits above a certain limit.

The tax cap, which has substantial opposition in Congress, would reduce current subsidies estimated to cost the federal government $17.6 billion in lost revenues. Medical expense write-offs reduce federal income by another $3.2 billion and charitable contributions to health organizations another $1.4 billion. All three could be eliminated in a simplified tax plan the Treasury Department is developing.

The cost-sharing portion of the catastrophic illness benefit also faced major difficulties in Congress and the provision budget officers are considering this year reportedly would set up a new premium to cover the cost of the catastrophic coverage. Another possibility is to require private employers to include catastrophic protection in workers' health insurance.

The voucher proposal is also said to be on the budgeteers' list along with increases in the part B premiums and deductibles and major changes in the funding of graduate medical education. The latter could include replacing the current Medicare contribution to the direct cost of medical education with a block grant and discontinuing the indirect cost allowance for all but the largest teaching hospitals.

Medicaid, which was hard hit in earlier rounds of budget cutting, could also be hit again, although Congress may balk at any further cuts in this program. Possibilities include: a 3% reduction in federal Medicaid payments to states where "health costs are excessive when compared to nationally established growth rate targets"; changes in the matching payment formula; or an across-the-board reduction in federal payments.

* * * *

Appropriations, Hospice Home Care Bills Signed

As one of his first post-election duties, President Reagan signed on November 9 a $79.6 billion appropriation bill for the Department of Health and Human Services and a measure raising Medicare rates for hospice home care.

The appropriations measure which funds HHS programs through October 1, 1985, includes money for the National Institutes of Health and Human professions education programs that will continue despite the President's earlier veto of bills reauthorizing these programs. The NIH is to receive $5.15 billion; nurse and health professions training programs, $234.5 million.

The hospice bill would restore the home care payment to $53.17 a day. HHS had initially proposed this rate but reduced it to $46.25. A veto threat was withdrawn in the face of the considerable public and bipartisan Congressional support for the hospice movement.

* * * *

PRO Contracts Complete, Feds Bid Out Super PRO

With just six days to spare before a Congressional deadline for implementation of the fledgling peer review organizations (PROs), Health Care Financing Administration officials on November 9 signed the last three PRO contracts.

The officials now are awaiting bids for another contract — dubbed the Super PRO — to evaluate and monitor the PROs.

Also still to come are four sets of PRO regulations that have not yet been issued in final form.

As had been predicted, Idaho will be the only state in which the review authority has been delegated to a Medicare intermediary. There, the Idaho Blue Cross plan will be paid its cost for the PRO reviews of hospitalized Medicare patients' care. A $1.3 million spending limit has been placed on the contract, however.

HCFA negotiators had initiated talks with the Hawaiian intermediary, Blue Shield of Hawaii, after a plan to have the California PRO assume review in Hawaii and the Pacific Islands fell through. Negotiations with the Arizona PRO proved more successful, however, and that contractor was also awarded the $1.28 million Hawaiian contract and the $227,000 contract for Guam and Samoa.

The Arizona PRO (the Phoenix-based Arizona Health Services Advisory Group) is one of only two for-profit groups that won PRO contracts. The other is the Pennsylvania Peer Review Organization in Camp Hill.

Meanwhile, federal officials are gearing up to keep a watchful eye on the PROs. The new review organizations have considerably more authority than their predecessor Professional Standards Review Organizations, and HCFA staff is concerned that the PROs apply their power with sensitivity. There have been a few early reports of impolitic actions and letters among some PROs that have probably unnecessarily angered hospitals and physicians in their area.

The federal PRO management team will also be keeping tabs on progress PROs make toward meeting the stiff new admission-reduction and quality-enhancing goals the winning organizations set for themselves. Staff from HHS' Inspector General's Office also will be looking at the PROs as part of their overall task of monitoring Medicare's prospective pricing system. Super PRO will play a critical role in the monitoring process.

Bids on the Super PRO contract were due by November 30 and several organizations, including the American Medical Association, were bidding.

The winner will be scrutinizing the PROs medical review decisions to assure that they are "consistent" and "appropriate" and that they are made by "appropriate staff or representatives."

In addition to selection of the Super PRO, the new peer review groups are still awaiting publication of four sets of final PRO regulations, including a controversial proposal governing confidentiality of data collected by the PROs. Proposed confidentiality regulations that made public data on identifiable individual hospitals were criticized by hospitals and physicians as too loose. Representatives of business, labor and the elderly want to eliminate the proposal rules' protection of individually identifiable physician data.

Other regulations still to come will govern the conduct of review, sanctions and appeals.

A recent regulatory agenda published in the Federal Register anticipates publication of a final regulation by the end of December. Another set of regulations governing conditions under which Medicare will pay for certain services later found to have been unnecessary is still being drafted.

* * * *

Wennberg Method Proposed To Reduce Variations

A greatly expanded federal investment to reduce variations in medical practice from community to community might save Medicare up to $16 billion a year and reduce surgical death rates in the process, says a physician epidemiologist who has studied such variations for 10 years.

Dartmouth professor John Wennberg, M.D., wants Medicare and Medicaid to follow industry's example of setting aside a specific percentage of expenditures for research. He has suggested that about 0.5% of the Medicare trust fund outlays be devoted to this purpose. At estimated 1984 spending levels this would amount to nearly $300 billion if all spending were included.

The research Dr. Wennberg has in mind would monitor and compare surgical and hospital admission rates community by community. It would also compare the outcomes of alternative treatments for some conditions where physicians don't agree on the best approach.

In addition, the Dartmouth medical school professor thinks federal funding to medical schools should be contingent on the schools' teaching statistical and epidemiological techniques that would help physicians choose between treatments.

His premise is that with documentation of the variations and better outcome studies, physicians will voluntarily reduce the variations. Since he

has found low utilization rates among some teaching hospitals, he believes uses rates—and therefore costs—can be lowered without harming quality. In many cases, he suggests, care would simply be shifted from hospitals to physicians' offices so physicians' incomes would not be greatly affected by the change.

One indication of the growing attention Wennberg's methodology is attracting came at a November 19 hearing of the Senate Appropriations Subcommittee on Health and Human Services. Hearing Chairman Senator William Proxmire (D-WI) said he sees the Wennberg approach as a possible way to avoid cuts in Medicare benefits. A variety of witnesses, including the American Medicare Peer Review Association, the Washington Business Group on Health, and the American Medical Association supported Wennberg's approach but had different interpretations of it.

AMA representative James E. Davis, M.D., speaker of the Association's House of Delegates, emphasized that medical societies have participated in some of Dr. Wennberg's studies and saw as one of its virtues the emphasis on "voluntary practice modification rather than intrusive governmental intervention."

The Durham, North Carolina, surgeon added, that while the AMA does believe that "wide variations" in care "should be examined closely," they may be "an indicator" of the "failure to provide care" as well as a signal that inappropriate care has been provided.

AMPRA Vice President Thomas Dehn, M.D., whose organization represents physician-directed peer review groups, including some of the new PROs, said Dr. Wennberg's work points to the need to extend PRO reviews into outpatient settings.

Washington Business Group on Health executive Willis Goldbeck saw the Dartmouth researchers' findings as evidence that business needs more data on hospital and physicians, and that Congress should require a relicensure system for physicians. Although Goldbeck also implied that some practice variations stem from usual, customary and reasonable payments, Wennberg himself has said that the variations are a "worldwide phenomenon not explained by incentives associated with fee for service medicine."

Health Care Financing Administration staff, who are clearly uneasy with the prospect of a Medicare set-aside for research, maintained that the recent advent of a Medicare prospective payment system and peer review organizations (PROs) are already encouraging physicians to rethink their practice patterns. Nevertheless, HCFA official Henry Desmarais, M.D., announced, the agency is "considering" Dr. Wennberg's method as "one of several approached within the new PRO program to further refine the identification of variations in physician patterns." Some PRO officials have reported that HCFA is negotiating a demonstration of a Wennberg computer program by the Iowa PRO.

* * * *

Court Orders Nursing Home Inspection Guidelines

A federal court in Denver has ordered the Department of Health and Human Services to rewrite guidelines for inspecting the nation's 18,000 nursing homes to emphasize actual care of patients rather than the structure of the home.

The ruling by the U. S. Court of Appeals comes as a prestigious national committee is holding a series of public hearings on nursing home standards and regulations and as both states and the federal government are beginning to look for better ways of monitoring the care nursing home patients receive. Federal officials said they haven't yet assessed the potential impact of the Colorado suit and haven't decided whether or not to appeal the decision.

The suit was based on the argument that by concentrating on structural issues, federal Medicare and Medicaid standards concentrate only on the homes' potential to provide care rather than the quality of care actually provided.

Although a lower court ruled that enforcement of nursing home standards is a state responsibility, the appeals court found that HHS was not meeting a statutory obligation to assure that nursing home patients receive quality care and instructed the lower court to "compel" the department to meet its obligations in this area.

The issue raised in the Colorado decision involves a long argument over the types of standards nursing homes participating in Medicare and Medicaid should be required to meet and how they should be monitored.

It was put on hold when Congress directed HHS to hold off on any changes in the enforcement procedures for a short time and then won a "gentleman's agreement" with the department that changes in the conditions of participation

and inspection process would be delayed pending the recommendations of a national commission.

The commission, which was formed through the National Institutes of Medicine, is now conducting public hearings and expects to issue its final recommendations in July 1985. Congress in the interim also increased the funds for inspection which rose to $73.6 million in 1983 and were at $72.5 million in 1984.

Meanwhile several states have initiated new inspection and survey methods aimed at looking less at facilities' physician structure and more at the end result in terms of quality of care and the degree to which the patients' other needs are met as well. The Health Care Financing Administration is involved in five of the state efforts and is also experimenting with a new national survey instrument. Both the nursing home industry and patients rights groups support a move to an outcome oriented approach.

* * * *

President Challenges New Council On Health Care Technology

In a tersely worded message to Congress, President Reagan this month warned that he would not request funding for the new Council on Health Care Technology, a quasi-private clearinghouse for technology assessment.

Although Reagan signed S-771, which authorized the Council, he noted "strong objection" to the constitutionality of the group.

The Council would be composed of members chosen by the federal Department of Health and Human Services and the private National Academy of Sciences, including federal officials, members of the general public, and representatives of the fields of medicine, law, ethics, economics, and management.

Reagan contended that the council would mix governmental and non-governmental, executive and legislative elements "in a manner which is inconsistent both with the Constitution and with sound government practices," he said. Because the Council would perform government duties, it is unconstitutional for its members to be selected by a nongovernmental agency, he noted.

The President asked Congress to go back to the drawing board, revamping the structure and function of the Council. Until such remedial legislation, he will refuse to ask for funding for the Council in his January budget.

* * * *

Another Blow To Depo-Provera

Citing inadequate research, a Food and Drug Administration advisory panel has recommended that the injectible contraceptive Depo-Provera not be approved for sale in the U. S.

The panel of three university scientists said that data linking the long-term use of the drug to cancer in animals should not be ignored. Depo-Provera was found to produce breast cancer in beagles over a 7-year period and endometrial cancer in monkeys over a 10-year period.

The panel's recommendation, endorsed by other FDA scientists, now goes to FDA Commissioner Frank E. Young, M.D., for a final decision. If Dr. Young agrees with the panel's conclusion, as expected, manufacturer Upjohn Co. may go to court to have the FDA action overturned.

Depo-Provera, approved in 80 foreign countries, has been used by 11 million women around the world. If approved in the U. S., an estimated 4 million women may have shifted over from other contraceptives. Additionally, the drug could have been used in overseas population programs sponsored by the U. S. Agency for International Development.

The drug is effective for over three months and requires less patient motivation than the pill or barrier contraceptives. It is injected into the muscle of the upper arm or buttock and released slowly into the bloodstream from the injection site. It can be administered by any person who normally gives injections.

It prevents ovulation by suppressing hormone production by the hypothalamus and pituitary. Secondary effects, such as changing the cervical mucus, the uterine lining, and the Fallopian tubes, also reduce fertility.

Its use is endorsed by a wide variety of health and population groups, such as the World Health Organization, the American College of Obstetrics and Gynecology, the International Planned Parenthood Federation, and the Population Crisis Committee.

Opponents include FDA staff scientists, individual scientists from the National Cancer Institute, the Centers for Disease Control, and consumer advocacy groups such as the National Women's Health Network and the Health Research Group.

* * * *

FDA Considers Banning Sale Of Raw Milk

The Food and Drug Administration (FDA) is

considering a regulation that would ban the sale of raw milk, in hopes of reducing cases of bacteria-linked poisoning.

Advocates of raw milk contend that pasteurization reduces levels of thiamin, vitamins B-12 and C, calcium, protein, and fat. Raw milk has been claimed to contain beneficial enzymes, hormones, and anti-stiffness agents for treatment of arthritis.

Many recent outbreaks of salmonellosis, however, prompted government officials to take a closer look at raw milk. Milk is an ideal growth medium for Salmonella, they discovered, causing severe diarrhea, abdominal cramps, and sometimes death. California health authorities have calculated that the risk of Salmonella dublin infection is 84 times higher in persons who consume raw milk than in persons who consume pasteurized milk.

Moreover, pasteurization causes no major loss of nutrients, FDA researchers found. There is no evidence that raw milk enhances resistance to disease, improves fertility, or reduces stiffness, they say. The so-called beneficial enzymes inactivated by pasteurization are also inactivated by gastric acidity and hormones are unaffected by the pasteurization process, they note.

FDA's proposal was applauded by the AMA, which believes that all milk sold for human consumption should be pasteurized. "There is convincing scientific evidence that raw milk poses a significant public health risk," said AMA Executive Vice President James H. Sammons, M.D. "Pasteurization kills the bacteria that transmit disease to humans."

* * * *

New NIH Guidelines

A new report from the Institutes of Medicine (IOM) warns against further expansion of the National Institutes of Health (NIH), but urges NIH to become more aggressive in its response to public health needs.

If NIH does a better job at responding to health emergencies, perhaps Congress will ease up on efforts to create new institutes, the IOM report suggests.

The report was prepared by a 15-member IOM committee over the past 18 months, in response to a request by the Department of Health and Human Services to study the organizational structure of NIH. The committee received written comments from 145 organizations and individuals and interviewed 185 people, including members of NIH, HHS, Congress, and the scientific and medical communities.

Part of the report received a warm reception: virtually everyone agrees that the NIH Director deserves more freedom to respond to sudden research needs. Proposals which give the NIH Director access to a discretionary fund and the authority to transfer some funds across NIH institute lines were endorsed by both the research and congressional community.

There is dispute, however, over the report's criteria for establishing new institutes. Since 1970, there have been 23 separate proposals for new institutes. Researchers say that the once-unified mission of NIH has become fractured and splintered as disease groups lobby for special attention.

The most recent push for NIH reorganization, which would have authorized a new arthritis institute and nursing institute, was vetoed by President Reagan in November.

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Cancer Rates Improving

Survival rates for cancer victims are showing a slow but gradual improvement, climbing from 48% for patients diagnosed from 1973-75 to 49% for patients diagnosed from 1976-81, according to new National Cancer Institute (NCI) statistics.

Most noteworthy are gains in survival of cancers of the lung (12-13%), colon (49-52%), and prostate (64-70%).

Overall there were gains against rare diseases such as testicular cancer, Hodgkin's disease, melanoma, and the vast array of childhood cancers and leukemias, but little progress in the more common cancers of the breast and endometrium.

Cancers with the highest five-year survival rates are: thyroid cancer, 93%; testis cancer, 86%; endometrium cancer, 85%; melanoma, 80%; female breast cancer, 74%; bladder cancer, 73%; Hodgkin's disease, 73%; and uterine and larynx cancers, 67%. Cancers with the lowest survival rates are: pancreas cancer, 2%; esophagus cancer, 5%, and stomach cancer, 16%.

In some cases, NCI says increased survival rates are due to improved drug therapy; in others the turnaround is due to better recognition of early lesions by patients.

* * * *

FDA Offers Help To Halt Fraudulent Medical Ads

The Food and Drug Administration (FDA) and the Council of Better Business Bureaus have

asked the nation's radio and TV stations to review medical claims carefully before accepting them in advertisements.

To help, FDA and the Council are mailing 10,000 sales managers information about how to recognize medical product frauds. The mailing suggests careful checking of proposed ads that depend on sensational or foreign testimonials, state or imply that established medicine is covering up a "breakthrough," or have vaguely worded "money back" guarantees.

If TV and radio sales managers have questions about a claim or company, the Council and FDA are ready to help. A similar mailing was sent to newspapers and magazines in May.

Among bogus products as frauds are "miracle" weight reducers, herbs and health foods sold with disease claims, body wraps, sex aids, arthritis and cancer "cures," simplistic tests for diet deficiencies and allergies, anti-aging products, sobriety aids and multi-purpose elixirs and treatments.

* * * *

Medical PACs Came Of Age In 1984 Elections

Behind the scenes in recent elections, political action committees (PACs) quietly have come of age. Strong and savvy, they have established themselves as major fixtures on Washington's political scene.

Nowhere is this more evident than in health PACs. AMA's PAC (AMPAC), once the only major contributor to health-oriented candidates, has been joined by more than 100 smaller, more specialized contributors.

AMPAC boosted spending 60% during this election cycle, from $2.4 million in 1981 to an estimated $3.5 million in 1984. Abbott Labs increased contributions 28%; Eli Lilly increased contributions 22%. Hospital chains, medical device companies, medical specialty societies, and non-physician professionals all report healthy spending levels.

Candidates who once spurned a PAC's advances this year turned to them for help. PAC spokesmen say they received unprecedented numbers of invitations to campaign cocktail parties and dinner fundraisers.

Even some staunch opponents of PACs have adopted a "if you can't beat 'em, join 'em" philosophy and contributed to politicians who best represent their interests.

Some of the changes noted in fundraising this past election cycle:

★ Earlier spending—larger "war chests" of contributions are carried from election to election, saved for future use. Supporters of this accelerated spending say that "early money" makes candidates less vulnerable to the debts incurred by their re-election campaign.

★ Increased pressure—as the cost of running for office climbs, candidates must look for new ways to make ends meet. "Reverse lobbying," in which candidates solicit PACs, is now the trend. Some large PACs ask challengers to fill out questionnaires, complete "position paper" and discuss issues. Even small PACs say they receive daily invitations to fundraising parties.

★ More risk taking—as PACs become more adept at identifying qualified challengers, they have shifted away from the play-it-safe approach of backing only incumbents and are making a greater effort to locate those challengers who support their interests.

★ Restricted spending—increasingly, PACs look for ways to exert the greatest influence on the handful of Congressional candidates they most want in office. FEC's limits on PAC spending can be sidestepped by "independent expenditures;" as long as a PAC has no contact with a candidate or his campaign, there is no ceiling on the amount it spends. Spending was very high in this area in 1984.

★ Greater specialization—not long ago, AMPAC was the only medical PAC in town. Now, there are PACs for pathologists, psychiatrists, emergency physicians, and oral and maxillofacial surgeons. Black physicians are represented by the National Medical Association PAC; public health physicians, Public Health PAC; and anti-war physicians, Medical Associates for Peace PAC. Non-physician health PAC are also active; in the 1983-84 election cycle, dentists spent roughly $679-680; chiropractors, $213,814; nurses, $185,662; optomotrists, $177,974; podiatrists, $134,954 and so on.

★ Changed expectations—gone are the days when a voting record could pinpoint candidates who were for or against medicine. The battle lines are often blurred. PACS now look for legislators who share philosophical leanings, or who are particularly knowledgeable about a certain area of health.

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Fauci To Head NIAID

Anthony S. Fauci, M.D., an internationally re-

nowned expert on the immune system and AIDS research, has been appointed director of the National Institute of Allergy and Infectious Diseases.

Dr. Fauci, 43, has been chief of NIAID's Laboratory of Immunoregulation since 1980 and deputy clinical director of the Institute since 1977. Former NIAID director, Richard M. Krause, M.D., left last summer to become dean of the school of medicine at Emory University in Atlanta.

Dr. Fauci received his M.D. degree from Cornell University Medical College, served his internship and residency at the New York Hospital-Cornell Medical Center, and joined NIAID as senior investigator in the laboratory of clinical investigation in 1972.

* * * *

Mittemeyer Resignation

Army Surgeon General Bernhard Mittemeyer, M.D., will leave his position in early 1985 to become Vice President and Medical Director of a Los Angeles-based medical management firm, the Whittaker Corporation.

Dr. Mittemeyer, a board-certified urologist, took over as Army Surgeon General three years ago. Prior to his appointment, he was commanding general of Walter Reed Army Medical Center in Washington, D. C.

Dr. Mittemeyer serves in the AMA House of Delegates and on the Board of Regents of the Uniformed Services University of Health Sciences in Bethesda, Maryland.

* * * *

New National Institute Of Mental Health Director

Chervert H. Frazier, M.D., will assume the post of new director of the National Institutes of Health before the end of the year.

Dr. Frazier joins NIMH from Harvard Medical School where he was professor of psychiatry, and from McLean Hospital in Belmont, MA, where he was psychiatrist-in-chief since 1972.

Prior to his service in Massachusetts, Dr. Frazier was professor and chairman, of the Department of Psychiatry, Baylor University College of Medicine; consultant psychiatrist at Rice University; and former commissioner of Mental Health and Mental Retardation for the State of Texas.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

STATE HOSPITAL FOUNDERS DAY PROGRAM

Presented by Emile P. Eckart, M.D., *March 1, 8:00 a.m. to 12:00 noon,* Greater Little Rock Community Health Center Auditorium, 4313 West Markham. Two and one-half hours Category I credit. Sponsored by UAMS.

THE LIVER AND ITS ENEMIES: RADIOLOGIC CORRELATIONS

Presented by Drs. Hemendra Shah and Charles M. Boyd, *March 9-10 (Saturday 12:00 noon-4:30 p.m.; Sunday 8:00 a.m.-12:30 p.m.),* Little Rock Hilton Inn. Approximately seven hours Category I credit. Fee $100. Sponsored by UAMS.

UPDATE IN CLINICAL GENETICS AND BIRTH DEFECTS

Presented by Donald E. Hill, M.D., *March 13-14, 8:00 a.m. to 12:00 noon,* Lakeshore Sheraton Hotel, Hot Springs. Seven and one-half hours Category I credit. Fee $60. Sponsored by UAMS.

ADVANCES IN MANAGEMENT OF PERIPHERAL VASCULAR DISEASE

Presented by Robert W. Barnes, M.D., Profes-

sor and Chairman, University of Arkansas for Medical Sciences, *March 19, 7:00 p.m.*, Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. Sponsored by Baxter County Regional Hospital.

RENAL PROGRAM

Presented by William J. (Pat) Flanigan, M.D., *March 29-31,* Airport East Holiday Inn, Little Rock. Sponsored by UAMS. (This program is tentatively scheduled. Time, hours of credit and fee to be announced.)

ADVANCES IN TREATMENT AND MANAGEMENT OF PEDIATRIC MENINGITIS AND SEPSIS

Presented by Terry Yamauchi, M.D., *April 2, 6:00 p.m.-8:00 p.m.,* Baker Conference Room, Washington Regional Medical Center, Fayetteville. One hour Category I credit. Sponsored by UAMS AHEC-NW.

SYMPOSIUM ON VASCULAR SURGERY AND TRAUMA

Presented by G. R. Westerman, M. D., *April 5-6, 8:30 a.m.-12:30 p.m.,* Arlington Hotel, Hot Springs. Fees: $25 for members of the Arkansas Chapter, American College of Surgeons; $75 for non-members. Hours of Category I credit to be announced. Sponsored by UAMS.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.
Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
ICU Lecture Series, second Friday, 1:30 p.m., Conference Room.
Peer Exchange, March "Pulmonary", April: "Nephrology".

JONESBORO — AHEC-NORTHEAST

Weekly Medical Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Interesting Case Conference, second Tuesday and fifth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Neurology Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Primary Care Seminar, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Surgery Conference, each Monday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.

Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Classroom 3, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Gynecology Conference, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Dining Room.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Classroom 1, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S1174K, Laboratory.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Cancer Conference, fourth Thursday, 12:00 noon to 1:00 p.m., Room S1174K, Laboratory.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday at 7:00 a.m. and each Wednesday at 4:00 p.m., UAMS Ed II Building, Room G/106.
Anesthesia M & M Conference, each Thursday, 4:00 p.m., UAMS Ed II Building, Room G/106.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
Interhospital GI Problems Conference, first Monday, 6:00 p.m., St. Vincent Infirmary, Classroom 3, Education Wing.
OB/Gyn Grand Rounds, each Wednesday, 4:00 p.m., UAMS Ed II Building, Room G/135.
Mental Health Services Grand Rounds, dates TBA. 10:00 a.m., Arkansas Mental Health Services Administration Building, Third Floor Conference Room.
Psychiatry Grand Rounds, each Thursday, 12:00 Noon, UAMS Child Study Center Auditorium.
Psychiatry Case Conference, each Friday, 1:00 p.m., UAMS Child Study Center Conference Room.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Ed II Building, Room G/131.

PINE BLUFF — AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



THINGS TO COME



April 4-6

Trauma and Vascular Surgery. Spring Meeting, Arkansas Chapter, American College of Surgeons. Arlington Hotel, Hot Springs. Fees are $25 for members of the Chapter; $75 for non-members. For further information, contact Dr. Richard Westerman, 804 Wolfe in Little Rock; telephone 664-4289.

April 17-21

Health Care Issues 1985. 109th Annual Session of the Arkansas Medical Society. Arlington Hotel, Hot Springs.

June 21-22

Arkansas InVitro Allergy Seminar. Sheraton—Hot Springs Lakeshore Resort. 12 Category Credits. For further information, contact Edwin L. Harper, M.D., Hot Springs Clinic of Otolaryn-

gology, P.A., 100 Ridgeway Place, Suite 2, Hot Springs, Arkansas 71901; (501) 624-5422.

September 9-13

Fourth International Conference on Neurotoxicology of Selected Chemicals: Neurotoxicology in the Fetus and Child. For further information, contact Dr. Joan M. Cranmer, Conference Chairman, Department of Pediatrics—#512B, University of Arkansas for Medical Sciences, Little Rock; telephone 661-5997 or 661-5958.



PERSONAL AND NEWS ITEMS

DR. TURLEY COUNTY PRESIDENT

Dr. Jan Turley of Rogers is the newly-elected president of the Benton County Medical Society. Dr. Edward McCollum of Decatur was elected vice-president; Dr. Carl Hoffman of Rogers was elected secretary-treasurer.

DR. DENEKE HONORED

Dr. Milton Deneke was honored by Mr. and Mrs. Fred Owen with a $10,000 donation to the First United Methodist Church in recognition of Dr. Deneke's devotion to the church and community.

DR. JUSTUS GUEST SPEAKER

Dr. Michael Justus of Malvern recently spoke on "Obstetrics" at a meeting of the Delta Omega Chapter of the Epsilon Sigma Alpha.

DR. GOSSETT CHIEF OF STAFF

Dr. C. E. Gossett of Jonesboro is the 1985 Chief of Staff at St. Bernard's Regional Medical Center. Other officers are Dr. Ray H. Hall, Jr., vice chief of staff; Dr. J. T. Wilson, secretary-treasurer; Dr. J. T. St. Clair, chief of obstetrics; Dr. J. W. Sanders, chief of surgery. Drs. R. O. Lawrence and A. H. Rusher were elected members-at-large.

DR. KORDEK APPOINTED

Dr. Michael Kordek of Perryville has been appointed chairman of the Professional Education Committee of the Perry County Unit of the American Cancer Society. He is a member of the Board of the organization.

DR. RUSSELL ELECTED CHIEF

Dr. J. R. Russell of Lake Village has been elected chief of staff at Chicot Memorial Hospital. Dr. Tom Tvedten also of Lake Village was elected secretary.

PHYSICIANS RECERTIFIED

Dr. James T. Russell of Prescott and Dr. Jerry Biggerstaff of Osceola have been recertified as diplomates of the American Board of Family Practice.

PHYSICIANS ON PANEL PROGRAM

Dr. Warren Boop, Dr. Steve Holt, Dr. Walter O'Neal and Dr. Phil Johnson, all of Little Rock, were panelists for a public forum on low back pain sponsored by the Medical Education Department at Baptist Medical Center. Dr. Ed Barron, also of Little Rock, served as moderator.

DR. KOENIG OPENS OFFICE

Dr. A. Samuel Koenig has opened an office for the practice of Family Medicine at 2420 Rogers Avenue in Fort Smith.

DR. SYKES CHIEF

Dr. Robert R. Sykes of El Dorado has been appointed chief of staff of the Warner Brown Hospital.

DR. NORTHCUTT ON BOARD

Dr. Carl Northcutt of Stuttgart has been elected to the Board of Directors of the Stuttgart Memorial Hospital.

DR. FRANTZ IN WILMOT

Dr. Shirley Frantz, a Family Physician, has located in Wilmot for Family Practice. She is serving with the National Health Service Corps.

DR. JUNKIN VISITS KINDERGARTEN

Dr. Bruce Junkin of Newport visited Hickory Ridge Kindergarten to talk with the children about a doctor's instruments and health care.

PULASKI COUNTY OFFICERS

Dr. Warren Douglas has been installed as president of the Pulaski County Medical Society. Dr. Fred O. Henker is the president-elect, Dr. David Barclay is vice president, Dr. Charles Rodgers is secretary, and Dr. Warren Boop is treasurer. Dr. Harold Purdy is the out-going president.

DR. DUFFY IN FORREST CITY

Dr. Thomas Duffy, a urologist, has opened an office at 1600 Lindauer in Forrest City.

DR. MITCHELL CHIEF OF STAFF

Dr. Bennie E. Mitchell is the newly-elected Chief of Staff at Arkansas Methodist Hospital in Paragould.

DR. HEDGES IS SPEAKER

Dr. Harold Hedges of Little Rock spoke to students in DeValls Bluff about the relationship of foods and the effect they have on the mind and body.

DR. NORTON RETIRES

Dr. Joseph Norton of Little Rock has retired from the practice of Radiology. Dr. Norton was a senior member of Radiology Associates. He began practice in 1950.

DR. BURKE ELECTED TO FELLOWSHIP

Dr. Bryan Burke of Pine Bluff has been elected to Fellowship in the American Academy of Pediatrics.



NEW MEMBERS

DR. M. KAREN SOLTYS

Dr. Soltys is a new member of the Boone County Medical Society. She was born in Springfield, Illinois.

Dr. Soltys attended Springfield College in Illinois. She received a Bachelor of Arts degree from Southern Illinois University in 1977. She is a 1980 graduate of the Southern Illinois University School of Medicine. Her internship and residency in Psychiatry were with the same institution. Dr. Soltys served as Chief Resident from January to June 1983.

Dr. Soltys has joined the Ozark Regional Mental Health Center for the practice of Psychiatry. Her office is located at 715 West Sherman in the Harrison Medical Park at Harrison.

* * * *

The Craighead-Poinsett County Medical Society has three new members:

DR. REVEL D. PORTER

Dr. Porter, a native of Shreveport, Louisiana, is a 1977 graduate of Memphis State University. He is a 1981 graduate of the University of Tennessee College of Medicine in Memphis. Dr. Porter served his internship and residency with the Department of Medicine at the University of Tennessee College of Medicine.

Dr. Porter specializes in Internal Medicine. His office is located at 505 East Matthews in Jonesboro.

DR. JOSEPH F. TEPLY

Dr. Teply was born in Sandusky, Ohio. He is a 1971 graduate of Bowling Green State University, Bowling Green, Ohio, and a 1976 graduate of the Ohio State University College of Medicine. Dr. Teply served his internship and one year of Surgery residency at the Milton S. Hershey Medical Center of the Pennsylvania State University in Hershey, Pennsylvania. He had two years of General Surgery residency at the Oregon Health Sciences University Hospital in Portland. He received further training in Thoracic and Cardiovascular Surgery at the same institution from 1982 to 1984.

Dr. Teply is board certified in General Surgery and is a member of the Albert Starr Society.

He specializes in Thoracic and Cardiovascular Surgery. Dr. Teply has his office in Suite 102 of 303 East Matthews in Jonesboro.

DR. ROBERT L. YATES

Dr. Yates, a native of Heber Springs, is a 1972 graduate of the University of Arkansas. He was graduated in 1976 from the University of Arkansas College of Medicine. His internship was with St. Vincents in Memphis, Tennessee. Dr. Yates received his residency training at the University of Tennessee Medical Center in Memphis. He has served with the United States Air Force and was stationed at Blytheville.

Dr. Yates is board certified by the American Board of Obstetrics and Gynecology. He practices Obstetrics and Gynecology at 3100 Apache Drive, Suite A-1, in Jonesboro.

DR. ROBERT A. HAYES, JR.

Dr. Hayes is a new member of Cross County Medical Society. He was born in Wynne.

Dr. Hayes is a 1977 graduate of the University of Mississippi and a 1981 graduate of the University of Arkansas College of Medicine. His internship and residency training were at John Peter Smith Hospital in Fort Worth, Texas. He is board certified by the American Board of Family Physicians.

He specializes in Family Practice. Dr. Hayes is associated with the Wynne Medical Clinic at 710 Falls Boulevard in Wynne.

DR. ROGER C. MURRAY

Dr. Murray, a new member of the Hempstead County Medical Society, was born in St. Paul, Minnesota. He served with the United States Army from 1943 to 1945.

He received a Bachelor of Science degree and a Bachelor of Arts degree from the University of Minnesota in Minneapolis. Dr. Murray was graduated from the University of Minnesota Medical School in 1952. His internship was with the Dartmouth-Hitchcock Medical Complex in Hanover, New Hampshire.

Dr. Murray was a resident in Surgery from 1953 to 1955 at the University of Michigan Hospital in Ann Arbor, Michigan. He served a Surgery Preceptorship with the Austin Clinic in Austin, Minnesota, from 1955 to 1957. He also served as a resident and Chief Resident in General and Thoracic Surgery from 1957 to 1959 at the University Hospitals and Veterans Administration Hospital in Madison, Wisconsin.

He was in private practice from 1959 to 1969 in St. Paul, Minnesota. Dr. Murray practiced in Mattoon, Illinois, from 1969 to 1971 while receiving further training in Vascular Surgery in St. Louis. He practiced in Kendallville, Indiana, and Sidney, Montana, from 1971 to 1981. Dr. Murray served Locum Tenems in Greenville, Kentucky, for one year. He was an Assistant Professor of Surgery at the South Dakota School of Medicine in Fort Meade, South Dakota, from 1982 to 1984. Dr. Murray was on the faculty of the Purdue University School of Nursing under the auspices of a Kellogg Foundation Grant and has been involved in teaching continuing education programs for nursing staff. He also has served in teaching Emergency Medical Technicians in Indiana and Montana. He has served as a Medical School preceptor.

Dr. Murray specializes in General Surgery at South Main and East Second Street in Hope.

DR. TIMOTHY M. FISHER

Dr. Fisher, a native of Paragould, has joined the Jackson County Medical Society.

He is a 1975 graduate of the Arkansas State University and a 1983 graduate of the College of Osteopathic Medicine, University of Health Sciences, Kansas City. His internship was in Categorical Medicine at Deaconess Hospital in St. Louis, Missouri.

Dr. Fisher specializes in Family Practice with offices at 1205 McLain Street in Newport.

DR. E. T. ELLISON, JR.

Dr. Ellison has joined the Miller County Medical Society. He was born in Greenville, Mississippi.

Dr. Ellison was graduated from the University of Texas at Austin in 1968. He is a 1973 graduate of the University of Arkansas College of Medicine. His internship was with St. John's Medical Center in Tulsa, Oklahoma. Dr. Ellison received his residency training at the University of South Florida Medical Clinics in Tampa. He began practicing medicine in Texarkana in 1977. Dr. Ellison is board certified in Ophthalmology.

He specializes in Ophthalmology. He is associated with Collum and Carney Clinic at 4800 Texas Boulevard in Texarkana.

DR. JAMES O. WRIGHT, III

Dr. Wright is another new member of the Miller County Medical Society. He is a native of Texarkana.

Dr. Wright is a 1970 graduate of the University of Texas at Austin and a 1974 graduate of the University of Texas Southwestern Medical School in Dallas. His internship and residency in Surgery were with the University of Alabama Medical

Center in Birmingham. He served a Fellowship in Thoracic and Cardiovascular Surgery with the University of Iowa Hospitals and Clinics in Iowa City, Iowa. He is certified by the American Board of Surgery and the American Board of Thoracic Surgery and is a member of the candidate group of the American College of Surgeons.

Before moving to Texarkana, Dr. Wright practiced in Jacksonville, Florida. He moved to Texarkana in 1983.

Dr. Wright specializes in Cardiovascular Surgery. His office address is 1301 Hazel in Texarkana.

DR. NARAYANASWAMI RANGASWAMI

Dr. Rangaswami has joined the Phillips County Medical Society. He was born in Coimbatore, India.

He was graduated from the Madras Medical College in Madras, India, in 1969. His internship and residency training were with the General Hospital in Madras.

Dr. Rangaswami practiced for five years in Memphis. He moved to Helena in 1981.

Dr. Rangaswami has his office for the practice of Pediatrics at 137-B Newman Drive in Helena.

DR. GEORGE B. MALLORY, JR.

Dr. Mallory, a native of Greenwich, Connecticut, has joined the Pulaski County Medical Society.

He is a 1970 graduate of Harvard College in Cambridge, Massachusetts, and a 1974 graduate of the Albert Einstein College of Medicine of Yeshiva University in New York City. His training in Pediatrics was with Children's Hospital of Pittsburgh in Pennsylvania. He served as Chief Resident from 1977 to 1978. He is board certified in Pediatrics.

Dr. Mallory was in private practice from 1978 to 1981 in Lewisburg, Pennsylvania. He served a fellowship in Pediatric Pulmonology at Children's Hospital of Pittsburgh from 1981 to 1983. Dr. Mallory was a member of the Pulmonology Division of the Department of Pediatrics at the Children's Hospital of Pittsburgh from May 1983 to April 1984. He joined the staff of the Arkansas Children's Hospital in April 1984.

Dr. Mallory specializes in Pediatrics Pulmonology. He is a member of the medical staff for the Division of Pulmonary Medicine at Arkansas Children's Hospital, 804 Wolfe, Little Rock.

DR. THOMAS P. LYNCH

Dr. Lynch is a new member of the Sebastian County Medical Society. He is a native of St. Paul, Minnesota.

Dr. Lynch's pre-medical education was with Michigan State University and the University of Tennessee. He was graduated from the University of Tennessee College of Medicine in 1970. Dr. Lynch was an emergency room physician in Cleveland, Tennessee, from January 1972 to June 1972. He was in a residency at Vanderbilt University Hospital from 1972 until 1975. Dr. Lynch was Assistant Professor of Radiology at the University of Tennessee for Health Sciences from July 1975 to June 1983. From June 1983 until he located in Fort Smith in April 1984, he was practicing in New Port Richie, Florida.

Dr. Lynch has served with the Tennessee Air National Guard; he received an honorable discharge in 1977.

Dr. Lynch is board certified in Radiology. He practices with Radiologists, P.A., at 1501 South Waldron Road in Fort Smith.

DR. CRAIG S. BOISVERT

Dr. Boisvert, a new member of the White County Medical Society, was born in North Adams, Massachusetts.

He is a 1978 graduate of the University of Vermont and a 1982 graduate of the New England College of Osteopathic Medicine in Biddeford, Maine. His internship and General Practice residency were with the Lancaster Osteopathic Hospital.

Dr. Boisvert has his office for General Practice at First and Erwin in Des Arc.

DR. DAVID L. HATFIELD

Dr. Hatfield is another new member of the White County Medical Society. He was born in Dallas, Texas.

His pre-medical education was with Harding College. Dr. Hatfield was graduated from the University of Texas Medical School in San Antonio in 1979. His Surgery internship and his residency in Otolaryngology were with the University of Texas Southwestern Medical School Affiliated Hospitals.

Dr. Hatfield specializes in Otolaryngology. His office is located at 302 West Center in Searcy.

OBITUARY

DR. J. B. ELDERS

Dr. Elders died December 13, 1984. He was born September 29, 1908, in Hematite, Missouri.

He was graduated from the University of Arkansas College of Medicine in 1935.

Dr. Elders served as a captain in the Army during World War II stationed in Europe.

He moved to Walnut Ridge in 1938. Dr. Elders was a charter member of the Walnut Ridge Kiwanis Club and a supporter of the athletic programs at Arkansas State University and the Walnut Ridge School. He had served for many years as secretary of the Lawrence County Medical Society. Dr. Elders was also a member of the Arkansas Caduceus Club and the Southern Medical Association. He was a life member of the Arkansas Medical Society and the American Medical Association.

Dr. Elders is survived by his wife, Mrs. Lucy Elders, and a son.

DR. PAUL S. READ

Dr. Paul Read of Fairfield Bay died December 13, 1984. He was born December 9, 1898, in Crested Butte, Colorado.

Dr. Read received his Bachelor of Arts degree from Grinnell College in Grinnell, Iowa, in 1921. He is a 1926 graduate of the Nebraska University College of Medicine. His internship was with Clarkson Hospital in Omaha, Nebraska.

He practiced in Worland, Wyoming, from 1927 to 1935 and in Omaha, Nebraska, from 1937 to 1942. Dr. Read served with the United States Army Medical Corps from 1942 to 1946. He returned to Omaha in 1947 and remained there until 1973 when he moved to Fairfield Bay.

Dr. Read served as vice president of the American Academy of General Practice from 1961 to 1962.

His body was donated to medical science.

Dr. Read is survived by his son and daughter.

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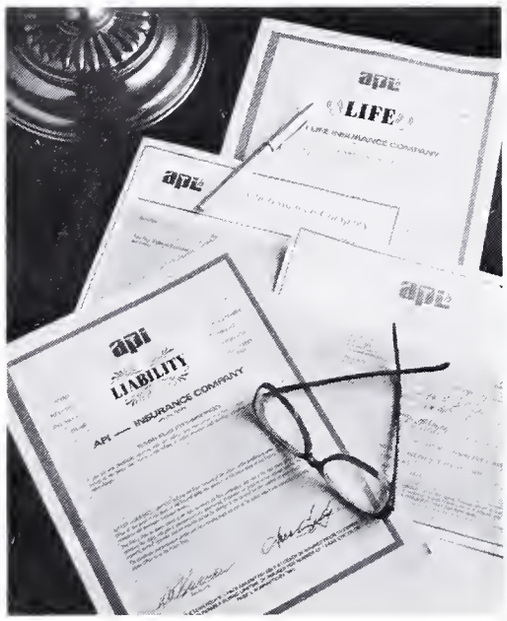
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VILONIA. Population 1,000 with a trade area population of approximately 6,000. The community is located 30 minutes from Little Rock and currently has no physician coverage. Office space is available.

BLYTHEVILLE/OSCEOLA. County population approximately 58,000 with a trade area population approximately 100,000. Opportunities exist in the communities of Blytheville and Osceola for physicians in the fields of family practice, orthopaedics, pulmonary diseases, pediatrics, radiology, urology, thoracic surgery, gastroenterology, and otorhinolaryngology. Incoming physicians are provided with personnel, equipment, exam furniture, office furniture, expenditures, health and professional liability insurance, accounting selections and tax and investment advice. There is no investment and a substantial guaranteed income is provided. The two hospitals have a combined bed capacity of 250.

WALDRON. Population 3,000; service area population 15,000. Located 45 miles south of Fort Smith in the heart of the Ouachita National Forest. An excellent opportunity is available for a general/family practitioner and an internist. There are currently four family practitioners and one general surgeon in Waldron. Each maintains an independent clinic, but they work closely together in providing off duty coverage. St. Edward's Mercy Medical Center, a 341 bed hospital in Fort Smith, owns and operates Mercy Hospital of Scott County and Pinewood Nursing Home in Waldron. A totally new, 27 bed, all private room hospital facility with modern operating rooms, laboratory, radiology, and other clinical facilities was opened in September 1983. Pinewood Nursing Home has a capacity of 85 beds with future expansion plans to include an apartment living center for the elderly. The hospital facility includes a modern physicians' office building. A contractual arrangement with a guaranteed minimum and other benefits will be provided to the physician chosen for this opportunity.

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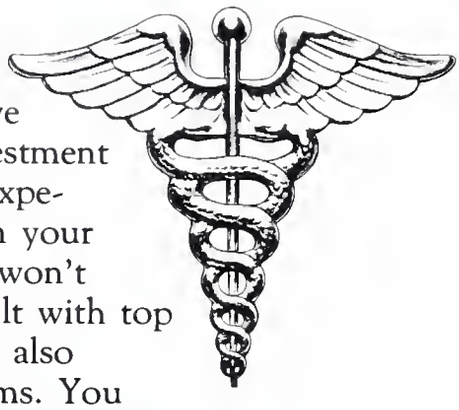
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HARTFORD. Population 700. Opportunity exists in family practice or general practice in this community which has a trade area population of approximately 7,500 and which is located 30 miles south of Fort Smith. A physician from Fort Smith is currently practicing part time in Hartford—one/half day five days per week. There exists a newly constructed 16 room clinic which is partially furnished.

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YELLVILLE. Population 1,200, with a trade area population of approximately 15,000. Opportunities in the fields of family practice, general surgery, internal medicine, obstetrics/gynecology, and pediatrics. Guaranteed income for first year at professional rates competitive with Little Rock and Memphis. Modern 59 bed community hospital is the only hospital within 24 miles.

FORDYCE. Population 5,200; trade area population approximately 18,000. Opportunity exists for family physician to locate in Fordyce and share office building with another family physician. Other office space is available. Also needed are a general surgeon, an internist, and an obstetrician-gynecologist. Three family physicians currently practice in Fordyce. The town has a 51 bed general hospital and two skilled nursing homes.

MENA. Population 5,132; county population 16,984. Mena is 82 miles from Fort Smith and 77 miles from Hot Springs, where most specialties are represented. There is a very good opportunity for a practice in Mena. The town presently has four family practitioners, three general practitioners, and one radiologist. The doctors feel there is a desperate need for specialists, i.e., surgeons, internists, ob/gyn, orthopaedists, pediatricians, urologists, and additional family and general practitioners. There is a new 57 bed, all private room, accredited general hospital in Mena and two nursing homes with a total bed capacity of 174.

DUMAS. Population of Dumas is 7,000, with a trade area population of 30,000. Seven physicians now in practice in Dumas are aiding in the effort to obtain additional general and family practitioners, an internist, an obstetrician/gynecologist, and a pediatrician. New, ultra-modern office facilities are near the 50 bed hospital. Dumas is 40 miles from Pine Bluff and 80 miles from Little Rock.

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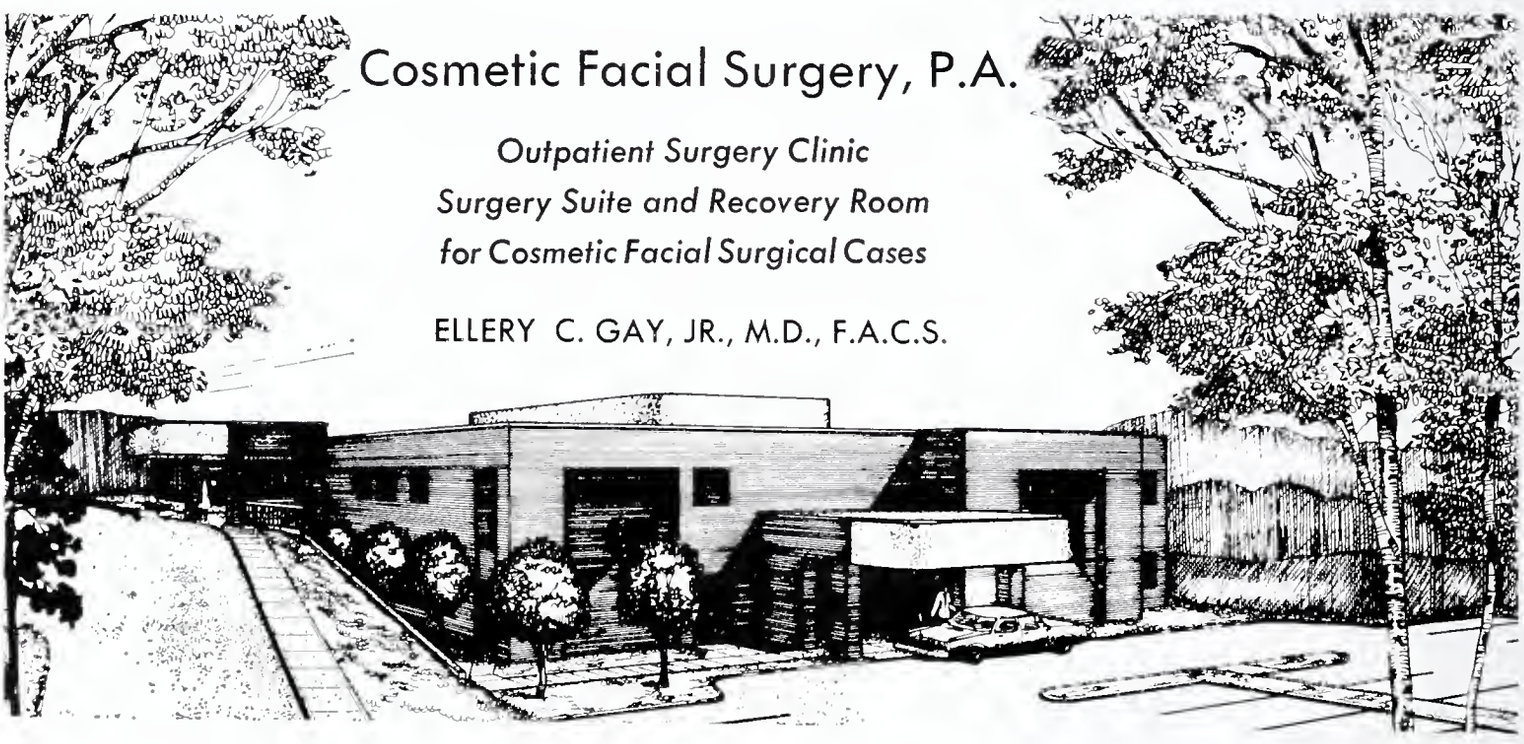
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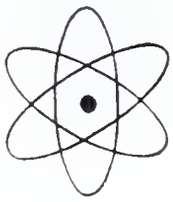
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ARKANSAS MEDICINE TODAY



TB kids on fast track

Children's tuberculosis is being successfully treated in Arkansas with just one month of daily isoniazid and rifampin, followed by eight months of semiweekly treatments, reports Dr. Rasalind S. Abernathy of the University of Arkansas, Little Rock.[1] In addition to halving treatment time, the new TB therapy reduces drug costs by three-fourths. Most symptoms cleared in a few weeks, remarks Dr. Abernathy, and all cultures were negative in two months.[2] This is especially significant because in 1981, 1,681 of the 27,373 new known U.S. TB victims were under 14 years old. And it's in the tradition of Arkansas medicine, which pioneered the adult nine-month TB therapy.[1]

More than a pipe dream

Inhalation patterns may determine why cigarette smokers have higher incidences of carcinoma of the lung, emphysema and heart disease than pipe smokers. Researchers at the University of Arkansas for Medical Sciences and the Little Rock VA Medical Center found that pipe smokers who had never smoked cigarettes inhaled only minimally.[3] This was evidenced by low plasma nicotine concentrations after pipe smoking. By contrast, those who smoked both pipes and cigarettes had high plasma nicotine levels and therefore must have inhaled pipe smoke. Most former cigarette smokers who had switched to pipes had low plasma nicotine, indicating they had stopped inhaling. This suggests that same individuals can indeed reduce the risks of smoking by switching to a pipe. You can determine whether they've stopped inhaling by checking their plasma nicotine or carboxyhemoglobin.

References: 1. *Medical World News,* Mar 14, 1983, p. 126
2. Abernathy RS, *et al: Pediatrics 72*:801-86, Dec. 1983.
3. McCusker K, McNabb E, Bane R: *JAMA 248* 577-578, Aug 6, 1982.

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*Feighner JP, *et al. Psychopharmacology 61*:217-225, Mar 22, 1979.

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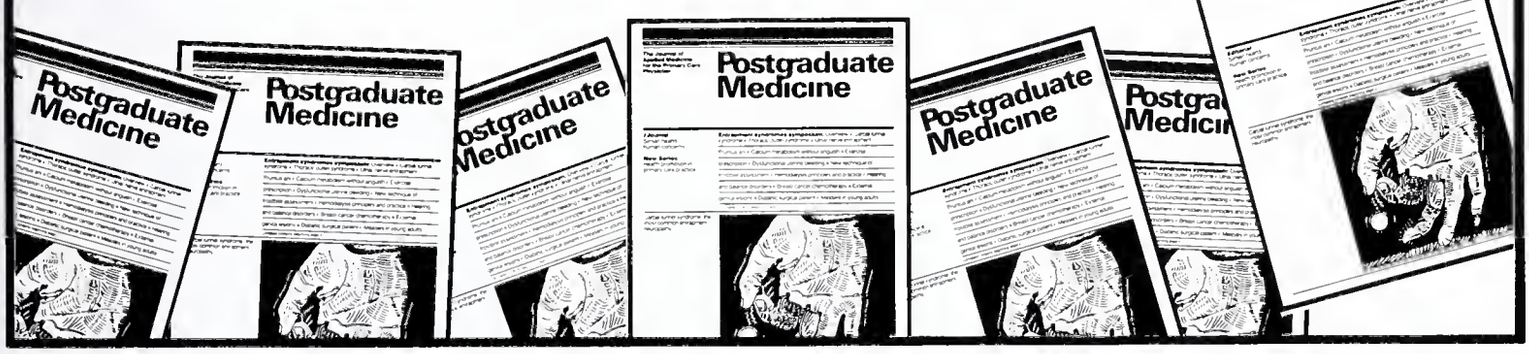
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Note: Culture and susceptibility tests should be initiated prior to and during therapy.

CONTRAINDICATIONS: In patients with known hypersensitivity to the cephalosporin group of antibiotics.

WARNINGS: *Use cephalosporin derivatives with great caution in penicillin-sensitive patients since there is clinical and laboratory evidence of partial cross-allergenicity of the two groups of antibiotics; there are instances of reactions to both drug classes (including anaphylaxis after parenteral use).* In persons who have demonstrated some form of allergy, particularly to drugs, use antibiotics, including cephradine, cautiously and only when absolutely necessary.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use. Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro*. Mild cases of colitis may respond to drug discontinuance alone. Manage moderate to severe cases with fluid, electrolyte and protein supplementation as indicated. Oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* when the colitis is severe or is not relieved by drug discontinuance; consider other causes of colitis.

PRECAUTIONS: General: Follow patients carefully to detect any side effects or unusual manifestations of drug idiosyncrasy. If a hypersensitivity reaction occurs, discontinue the drug and treat the patient with the usual agents, e.g., pressor amines, antihistamines, or corticosteroids. Administer cephradine with caution in the presence of markedly impaired renal function. In patients with known or suspected renal impairment, make careful clinical observation and appropriate laboratory studies prior to and during therapy as cephradine accumulates in the serum and tissues. See package insert for information on treatment of patients with impaired renal function. Prescribe cephradine with caution in individuals with a history of gastrointestinal disease, particularly colitis. Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms. Take appropriate measures should superinfection occur during therapy. Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

Information for Patients: Caution diabetic patients that false results may occur with urine glucose tests (see PRECAUTIONS, Drug/Laboratory Test Interactions). Advise the patient to comply with the full course of therapy even if he begins to feel better and to take a missed dose as soon as possible. Tell the patient he may take this medication with food or milk since G.I. upset may be a factor in compliance with the dosage regimen. The patient should report current use of any medicines and should be cautioned not to take other medications unless the physician knows and approves of their use (see PRECAUTIONS, Drug Interactions).

Laboratory Tests: In patients with known or suspected renal impairment, it is advisable to monitor renal function.

Drug Interactions: When administered concurrently, the following drugs may interact with cephalosporins:

Other antibacterial agents — Bacteriostats may interfere with the bactericidal action of cephalosporins in acute infection; other agents, e.g., aminoglycosides, colistin, polymyxins, vancomycin, may increase the possibility of nephrotoxicity.

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Carcinogenesis, Mutagenesis: Long-term studies in animals have not been performed to evaluate carcinogenic potential or mutagenesis.

Pregnancy Category B: Reproduction studies have been performed in mice and rats at doses up to 4 times the maximum indicated human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cephradine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

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Pediatric Use: Adequate information is unavailable on the efficacy of b.i.d. regimens in children under nine months of age.

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Children over 9 months of age — 25 to 50 mg/kg/day in equally divided doses q. 6 or 12 h. For otitis media due to *H. influenzae*: 75 to 100 mg/kg/day in equally divided doses q. 6 or 12 h but not to exceed 4 g/day. Dosage for children should not exceed dosage recommended for adults. There are no adequate data available on efficacy of b.i.d. regimens in children under 9 months of age.

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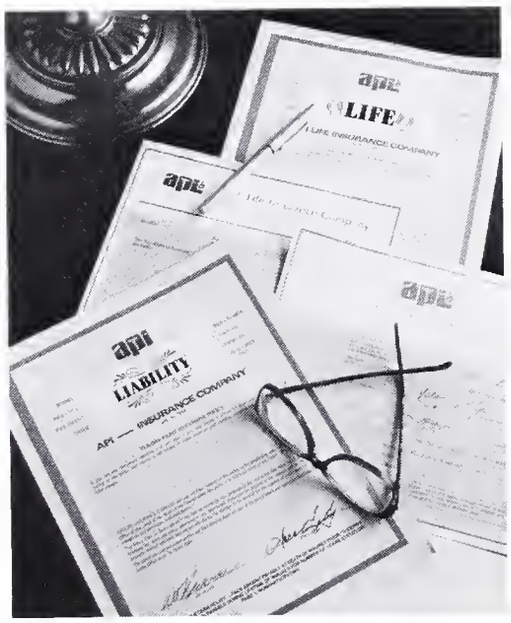
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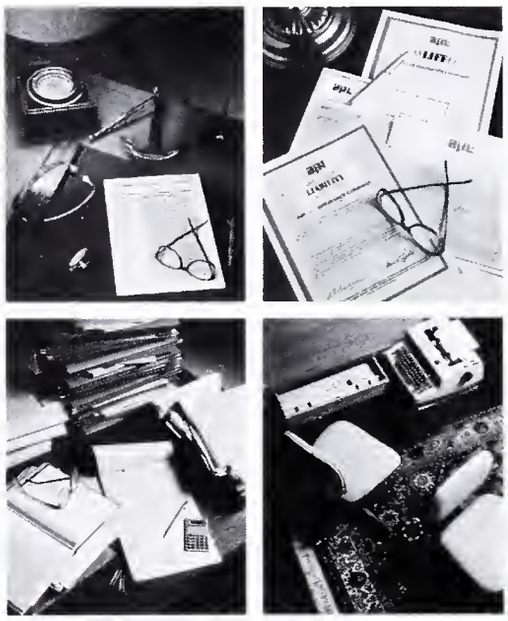
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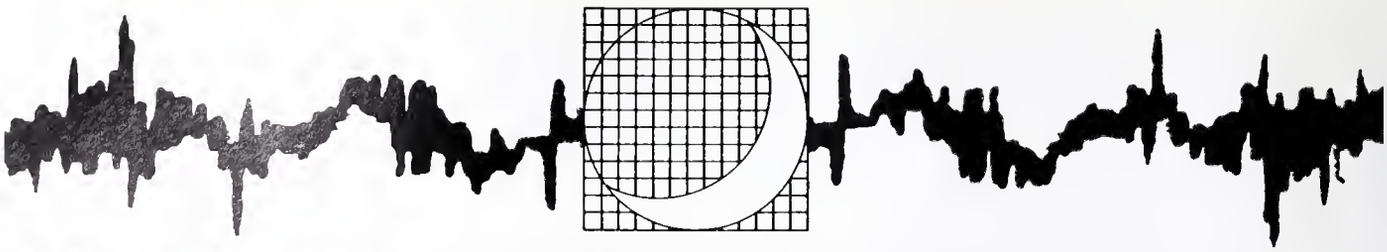
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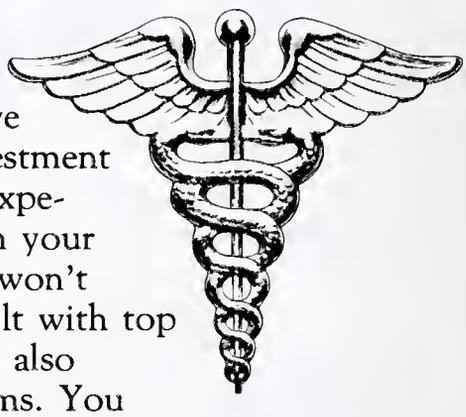
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Contraindications: Known sensitivity to benzodiazepines or acute narrow-angle glaucoma.

Warnings: Not recommended in primary depressive disorders or psychoses. As with all CNS-acting drugs, warn patients not to operate machinery or motor vehicles, and of diminished tolerance for alcohol and other CNS depressants.

Physical and Psychological Dependence: Withdrawal symptoms like those noted with barbiturates and alcohol have occurred following abrupt discontinuance of benzodiazepines (including convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Addiction-prone individuals, e.g. drug addicts and alcoholics, should be under careful surveillance when on benzodiazepines because of their predisposition to habituation and dependence. Withdrawal symptoms have also been reported following abrupt discontinuance of benzodiazepines taken continuously at therapeutic levels for several months.

Precautions: In depression accompanying anxiety, consider possibility for suicide.

For elderly or debilitated patients, initial daily dosage should not exceed 2mg to avoid oversedation. Terminate dosage gradually since abrupt withdrawal of any antianxiety agent may result in symptoms like those being treated: anxiety, agitation, irritability, tension, insomnia and occasional convulsions. Observe usual precautions with impaired renal or hepatic function. Where gastrointestinal or cardiovascular disorders coexist with anxiety, note that lorazepam has not been shown of significant benefit in treating gastrointestinal or cardiovascular component. Esophageal dilation occurred in rats treated with lorazepam for more than 1 year at 6mg/kg/day. No effect dose was 1.25mg/kg/day (about 6 times maximum human therapeutic dose of 10mg/day). Effect was reversible only when treatment was withdrawn within 2 months of first observation. Clinical significance is unknown; but use of lorazepam for prolonged periods and in geriatrics requires caution and frequent monitoring for symptoms of upper G.I. disease. Safety and effectiveness in children under 12 years have not been established.

ESSENTIAL LABORATORY TESTS: Some patients have developed leukopenia; some have had elevations of LDH. As with other benzodiazepines, periodic blood counts and liver function tests are recommended during long-term therapy.

CLINICALLY SIGNIFICANT DRUG INTERACTIONS: Benzodiazepines produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

CARCINOGENESIS AND MUTAGENESIS: No evidence of carcinogenic potential emerged in rats during an 18-month study. No studies regarding mutagenesis have been performed.

PREGNANCY: Reproductive studies were performed in mice, rats, and 2 strains of rabbits. Occasional anomalies (reduction of tarsals, tibia, metatarsals, malrotated limbs, gastroschisis, malformed skull and microphthalmia) were seen in drug-treated rabbits without relationship to dosage. Although all these anomalies were not present in the concurrent control group, they have been reported to occur randomly in historical controls. At 40mg/kg and higher, there was evidence of fetal resorption and increased fetal loss in rabbits which was not seen at lower doses. Clinical significance of these findings is not known. However, increased risk of congenital malformations associated with use of minor tranquilizers (chlordiazepoxide, diazepam and meprobamate) during first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, use of lorazepam during this period should almost always be avoided. Possibility that a woman of child-bearing potential may be pregnant at institution of therapy should be considered. Advise patients if they become pregnant to communicate with their physician about desirability of discontinuing the drug. In humans, blood levels from umbilical cord blood indicate placental transfer of lorazepam and its glucuronide.

NURSING MOTHERS: It is not known if oral lorazepam is excreted in human milk like other benzodiazepines. As a general rule, nursing should not be undertaken while on a drug since many drugs are excreted in milk.

Adverse Reactions, if they occur, are usually observed at beginning of therapy and generally disappear on continued medication or on decreasing dose. In a sample of about 3,500 anxious patients, most frequent adverse reaction is sedation (15.9%), followed by dizziness (6.9%), weakness (4.2%) and unsteadiness (3.4%). Less frequent are disorientation, depression, nausea, change in appetite, headache, sleep disturbance, agitation, dermatological symptoms, eye function disturbance, various gastrointestinal symptoms and autonomic manifestations. Incidence of sedation and unsteadiness increased with age. Small decreases in blood pressure have been noted but are not clinically significant, probably being related to relief of anxiety.

Transient amnesia or memory impairment has been reported in association with the use of benzodiazepines.

Overdosage: In management of overdosage with any drug, bear in mind multiple agents may have been taken. Manifestations of overdosage include somnolence, confusion and coma. Induce vomiting and/or undertake gastric lavage followed by general supportive care, monitoring vital signs and close observation. Hypotension, though unlikely, usually may be controlled with Levarterenol Bitartrate Injection U.S.P. Usefulness of dialysis has not been determined.

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The Scientific Program theme will be "Health Care Issues for 1985."

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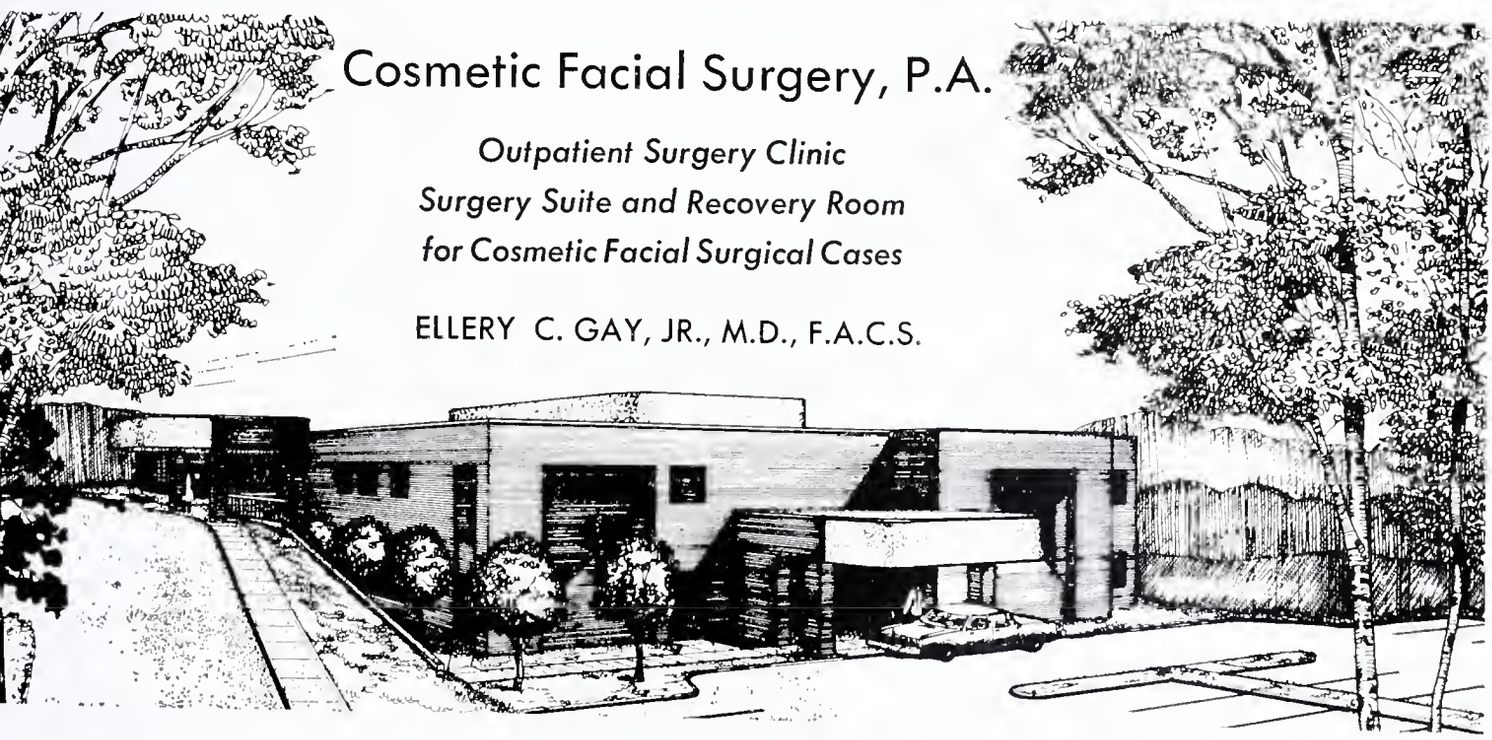
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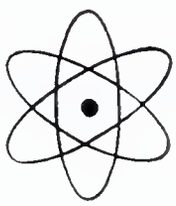
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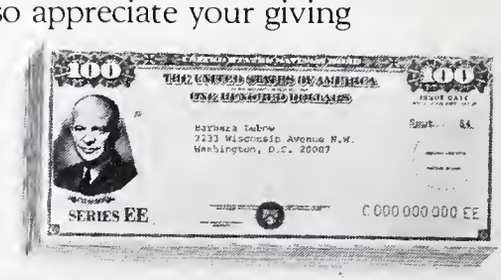


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b) Planning and implementing special events for alumni, including specialty receptions and the annual reunion.

c) Providing leadership in fund raising and special projects as directed by the Dean and the Caduceus Club's Board of Directors.

d) Representing the Caduceus Club and College of Medicine in strengthening their networks of volunteer supporters.

e) Interacting with related health professional groups situated on the University's multidisciplinary medical sciences campus.

The person should hold a Bachelors degree or possess equivalent experience, including three years of related work in the field. Specific experience in volunteer motivation and organization, public relations, fund raising, and membership recruitment is desired. An important qualification will be experience in working with physicians in some significant capacity.

Application deadline is: April 19, 1985

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Familial Cerebellar Atrophy

John A. Sullivan, M.D.,* James R. McConnell, M.D.,** and Robert C. Woody, M.D.***

INTRODUCTION

Two members of an Arkansas family were recently evaluated at Arkansas Children's Hospital for the development of blindness associated with ataxia. An additional adult member of the family had previously been evaluated at the University of Arkansas Medical Center for similar clinical problems. These patients were members of an extended family with at least five generations affected by progressive cerebellar dysfunction and blindness. A partial pedigree has been prepared, and the characteristic clinical and radiological features are presented.

CASE REPORTS

Case A: A four-year-old male presented with a history of progressive ataxia, generalized weakness, and progressive loss of vision during the previous year.

Case B: A five-year-old male had normal mental and physical development until eighteen months of age. He presented at age five with ataxia, near blindness, and decreasing speech ability. This patient had a sister and brother with similar symptoms. These siblings died at ages two and three, respectively. Autopsy examination of these patients showed olivopontocerebellar atrophy.

Case C: An eighteen-year-old female presented with progressive weakness and a history of blindness since age eight years. This patient was the maternal aunt of Case A. Cranial computed tomography was performed and revealed cerebellar atrophy similar to Cases A and B.

DISCUSSION

The olivopontocerebellar atrophies (OPCA) represent a variant of spinocerebellar degeneration marked by progressive degeneration of cerebellar functions. Common neuropathologic features include severe atrophic degeneration of the cerebellum with atrophy of its peduncles and basis pontis.[1] In addition to ataxia and other cerebellar symptoms, these patients may develop optic nerve atrophy and distal sensory and intellectual dysfunction. Konigsmark and Weiner have categorized these disorders into five types, four of which are inherited as autosomal dominant.[2] It has been speculated that olivopontocerebellar atrophy is caused by a single point gene mutation with penetrance and expression altered by other modifying genes.

Patients with olivopontocerebellar atrophy have similar neuropathologic and computed tomographic abnormalities. The three patients examined in this report are members of an ex-

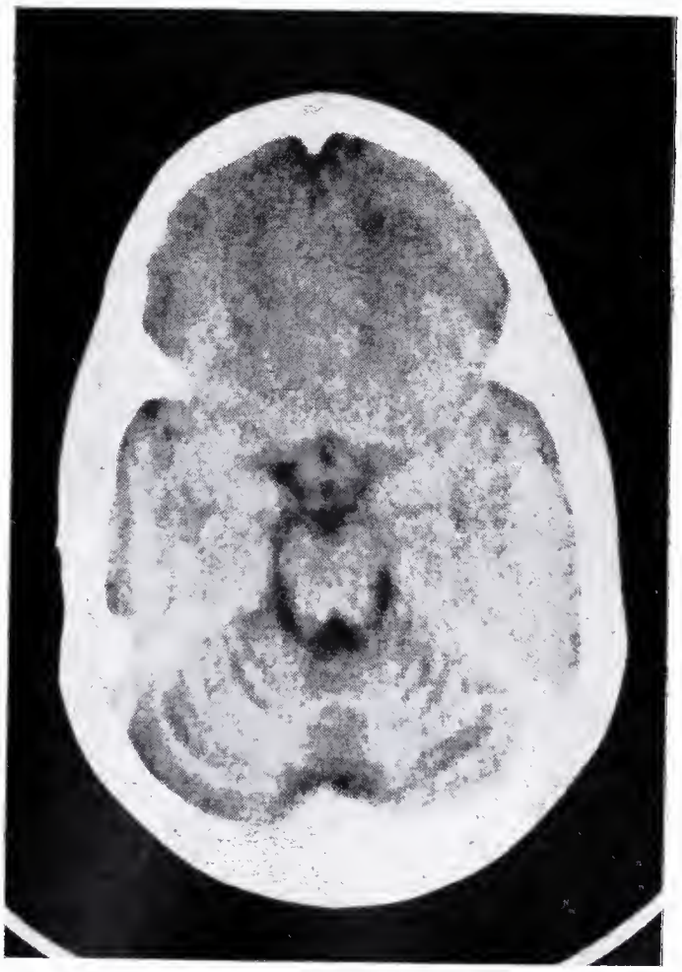


Figure 1.
Prominence of the cerebellar sulci and perimesencephalic cistern in this four-year-old male, diagnostic of cerebellar atrophy.

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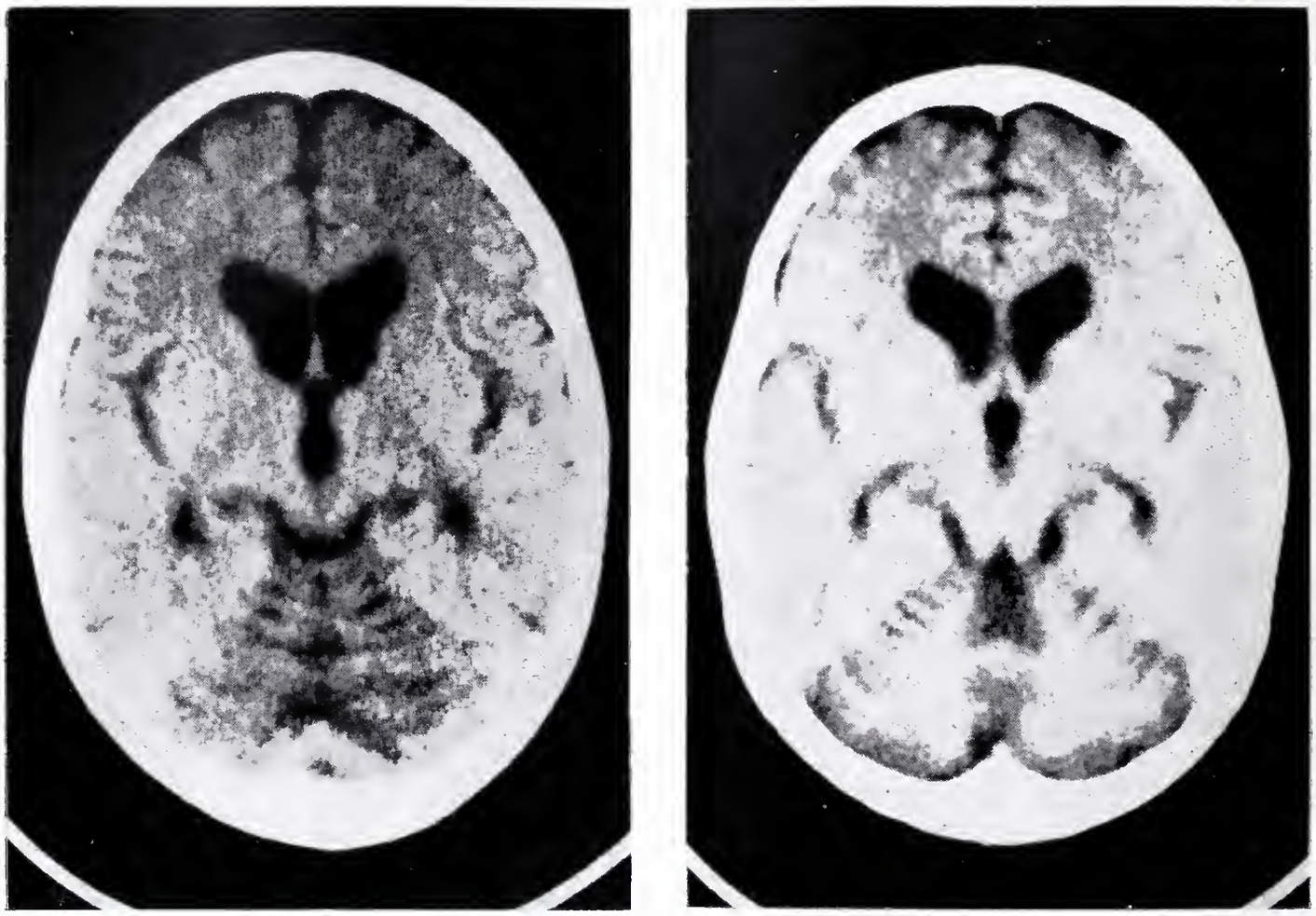


Figure 2A and 2B

Prominence of the cerebellar sulci, fourth ventricle, and quadrigeminal plate cistern in a five-year-old male. Also noted is ventriculomegaly and prominent cortical sulci suggesting diffuse cerebral atrophy.

tended family living in Arkansas. The symptoms in these patients were similar, although the age of onset and severity of the symptoms varied. Major clinical findings were ataxia, progressive loss of vision, and generalized weakness. The atrophic cerebellar changes seen in the younger

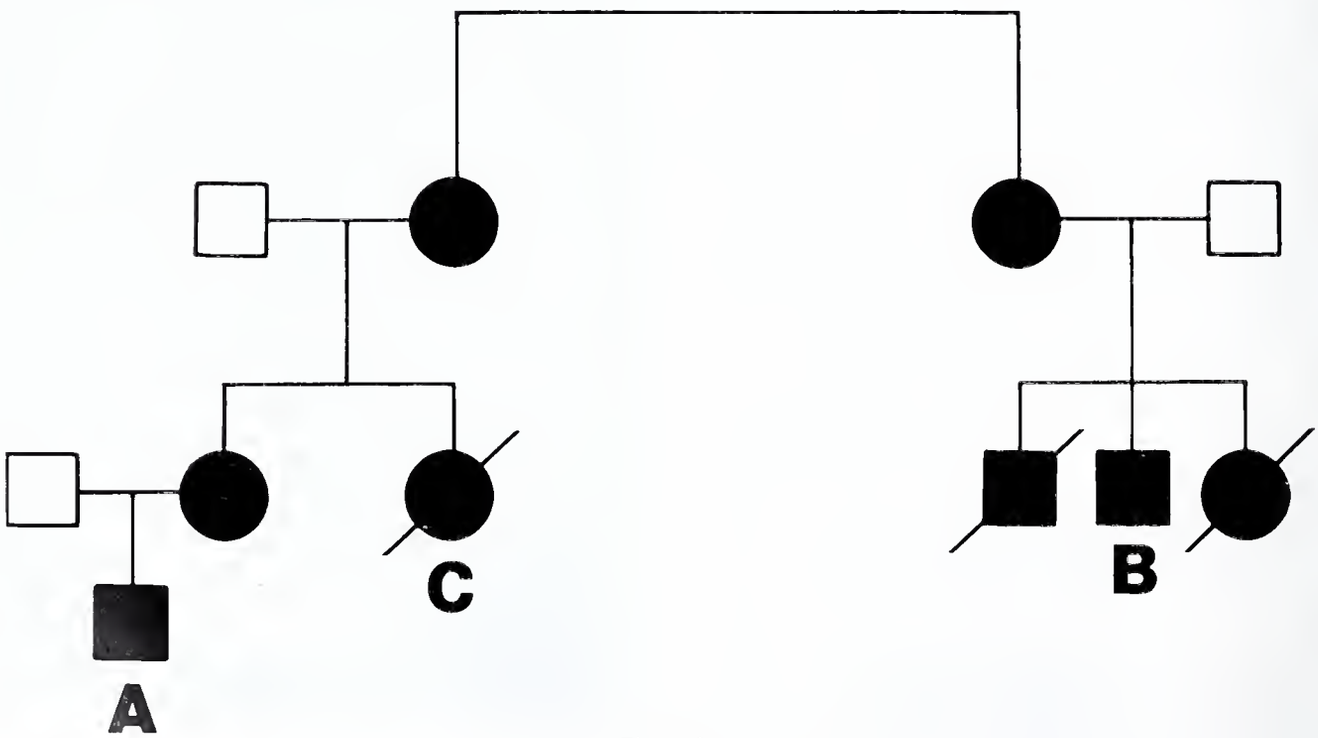


Figure 3.

Partial pedigree showing relationship of three patients with olivopontocerebellar atrophy.

patients were strikingly similar (Fig. 1, Fig. 2a, Fig. 2b).

Our series of patients showed a uniform pattern of cerebellar atrophy. The computed tomographic features included symmetrically prominent cerebellar sulci with dilated fourth ventricle. The cerebellar folia were clearly visible, and the perimesencephalic cisterns and superior cerebellar cistern were prominent. The posterior fossa was of normal size which indicates that the atrophic pattern developed after the cranium had fully developed. In addition, atrophic changes may also affect the cerebral hemispheres. This is shown on CT examination as ventriculomegaly and prominent sulci. All of these CT findings correlate closely with the pathological atrophic and degenerative changes seen at autopsy. The combination of family history, characteristic clinical presentation, and typical CT radiologic findings provide strong support for the diagnosis of olivopontocerebellar atrophy.

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Subependymal and Intraventricular Hemorrhage In the Preterm Neonate

Thomas D. Fulbright, M.D.,* and John R. Mawk, M.D.**

INTRODUCTION

Periventricular and intraventricular hemorrhage (IVH) in premature infants is a very common entity with significant associated morbidity and mortality. The incidence of periventricular and intraventricular bleeding obtained from several series of infants under 1500 grams or 35 weeks gestation ranges from approximately 35% to 45% (Table 1). Ahmann found overall mortality in

TABLE 1
INCIDENCE OF PERIVENTRICULAR — INTRAVENTRICULAR HEMORRHAGE IN PREMATURES

Study	Criteria	N	Imaging	Incidence
Papile	< 1500 grams	46	CT	43%
Ahmann	< 35 weeks	191	CT	40%
Holt	< 35 weeks	264	Ultrasound	34%
Levene	< 35 weeks	124	Ultrasound	43%

(modified from TARBY & VOLPE[19])

patients with IVH to be nearly 50% compared with 7% mortality in similarly premature infants without IVH.[1] Mortality increases with increasing severity of hemorrhage; hydrocephalus is also more likely (Table 2).

TABLE 2
MORTALITY FROM IVH

Pathology	N	Death	Mortality
SEH	6	0	0
Mild IVH	16	2	12.5%
Moderate IVH	20	3	15%
Severe	35	17	49%
TOTAL	77	22	29%

(from Ahmann et al[1])

The nidus for intraventricular hemorrhage is the subependymal periventricular germinal matrix. The bleeding is usually followed by transependymal rupture and extension into the ventricles and sometimes by extension into or infarction of adjacent parenchyma.

ANATOMY AND EMBRYOLOGY

Huebner's artery [from the anterior cerebral artery] is the major supply to the germinal matrix near the head of the caudate nucleus; this is the site of hemorrhage in most infants. The anterior choroidal artery and the deep lateral striate arteries, derived from the internal carotid and middle cerebral distributions respectively, supply the matrix over the body of the caudate; it is this area that is most frequently affected in infants under 28 weeks of gestation. Venous drainage in this area is into the terminal veins which empty into the thalamostriate-internal cerebral system.[4] The intervening capillary bed in this system is a rich vascular net with vessels less than 0.1 millimeter from the ventricular wall. The vascularity of this network diminishes from approximately 32 weeks of gestation onwards, corresponding to a shift of circulation to the cortex and subjacent white matter. This shift in cerebral blood flow may explain the decreasing incidence of IVH near term. The vessels of this vascular net are without smooth muscle or collagen before 30 weeks gestation. Beyond 30 weeks, smooth muscle and collagen begin to appear in vessels of the hippocampus, cortex and choroid plexus. Simple endothelial channels remain in remnants of the germinal matrix even in full term neonates.

Another anatomic feature possibly contributing to the high incidence of periventricular hemorrhage in prematures is the supporting structure of the germinal matrix itself. Although previously considered a gelatinous or spongy bed offering poor support for the vascular network, the spongy appearance of this area has recently been attributed to fixation artifact and is not noted with rapid fixation technique in experimental animals.[11]

In summary, in the premature infant there exists a rich vascular network of delicate channels in a possibly loose and poorly supportive environment which provides the anatomic background for the high incidence of IVH seen in this group.

PATHOPHYSIOLOGY

Cerebral vascular autoregulation is dependent upon smooth muscle activity in brain arteries. Milligan studied global cerebral blood flow in infants before and after transfusions;[13] impaired autoregulation was suggested. A significant increase in cerebral blood flow was appreciated

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with small increments in mean arterial blood pressure. If cerebral autoregulation were intact, no rise in cerebral blood flow with similar increments of pressure would be expected. Due to this lack of cerebral autoregulation in the premature cerebrovascular bed, it has been termed a "pressure passive" system. Excessive arterial flow into the system may occur secondary to various causes. Increases in blood pressure may be seen with apnea, asphyxia, seizures or even handling of the infant.

Venous congestion may also increase the total amount of blood in the cerebral vascular bed at a given time. Numerous clinical situations in the premature infant lead to increased cerebral venous pressure by virtue of increases in central venous pressure. These include positive end expiratory pressure ventilation, hyaline membrane disease, asphyxia and obstruction of dural venous sinuses secondary to deformation of the premature skull.

Experimental study in fetal sheep has shown that occlusion of the superior vena cava causes IVH only if it is accompanied by asphyxia.[17] Therefore, venous congestion alone in the absence of other stresses might not be expected to cause hemorrhage. It is known that the brain endothelium is particularly sensitive to hypoxic insult and is also especially reliant on oxidative metabolism. Therefore, hypoxia may plan an important role in the development of IVH.

To reiterate, the premature infant possesses a pressure passive bed potentially subject to increased arterial flow and venous congestion from a multitude of pathologic and physiologic processes. Further, there exists a significant likelihood of hypoxia with resultant compromise of the vascular endothelium. These factors may all have a role in the precipitation of IVH.

PATHOLOGY

Several simultaneous mechanisms of brain injury may be operative in patients with IVH. Hypoxic damage may occur from the same insult precipitating subependymal hemorrhage. Destruction of periventricular white matter by intraparenchymal extension of hemorrhage or concommitant infarct may occur. Destruction of glial precursors arising from the germinal matrix may later lead to faulty myelination. Frequently, subependymal hemorrhage is followed by transependymal rupture into the ventricles; hydrocephalus occurs if the ventricular system or arachnoid granulations are obstructed by clot or debris. Blood entering the subarachnoid space may precipitate arterial vasospasm leading to ischemia or infarction. Development of increased intracranial pressure to levels of 25 centimeters of water has been reported; such pressures exert a particularly critical effect on cerebral blood flow in this group of patients at high risk for frequent hypotensive episodes. Fibrosing arachnoiditis at the base of the brain causing obstruction of the foramina of Luschka and Magendie may lead to post hemorrhagic hydrocephalus, as well. Axonal stretching, axon loss and gliosis, decrease in calibre of major vessels and decrease in the number of secondary and tertiary vessels may occur if hydrocephalus is sufficiently advanced.[20]

CLINICAL FEATURES

Most intraventricular hemorrhages have been shown to occur within 48 hours of birth and prospective study has shown that approximately 50% of these occur within the first 24 hours.[16]

Specific signs of brain stem dysfunction and a tense fontanel indicate severe IVH. Non-specific signs of neonatal stress including hypotension, bradycardia, temperature abnormalities, decrease in hematocrit and water and glucose metabolic abnormalities may also be noted. This clinical syndrome is generally apparent and immediate intervention to lower intraventricular pressure is warranted on an emergent basis.

A less dramatic presentation with vicissitudes of clinical status has been termed the "saltatory syndrome." This syndrome, as the name implies, tends to manifest itself as a step wise deterioration in the status of the infant with interposed periods of stabilization or improvement. This syndrome is characterized by decreased activity and tone, abnormal eye movements and seizures. The setting sun sign [paresis of upward gaze with the sclera visible above the limbus] may occur due to compression of the posterior commisure from hydrocephalus.

A silent syndrome of IVH that goes unnoticed certainly exists in this high risk group. This generally reflects a less severe degree of hemorrhage.

DIAGNOSIS

The clinical prediction of hemorrhage is poor. In a group of 98 prospectively studied infants, clinical assessment of IVH was accurate in only 54% of the patients.[10] Accounting for the poor predictability of clinical examination is the fact that many of the signs of IVH are frequent in

non-IVH prematures and may indicate any number of pathologic processes. These signs include apnea, irregular respiration, bradycardia, temperature instability, blood pressure changes, persistent metabolic acidosis, glucose intolerance and abnormal posturing and movement. In the study quoted above, none of these symptoms was seen with statistically greater frequency in the hemorrhage versus the non-hemorrhage group. Signs which were found to be statistically significant clinical predictors of intraventricular hemorrhage in the premature infant include diminished hematocrit beyond 15% of initial hematocrit, failure of the hematocrit to rise with transfusion, a full fontanel, abnormal eye signs [abnormal staring, horizontal or vertical nystagmus, anisocoria or doll's head eye sign] or seizure activity defined as tonic or clonic activity with abnormal eye signs.

As clinical predictability of IVH is poor, methods for routine screening of premature infants have been instituted. Lumbar puncture is performed on the first day of life and if cerebrospinal fluid is clear, then repeat lumbar puncture is performed on the third day of life. Red cell counts of greater than 200 cells per microliter are considered indication for CT scanning. Mean CSF protein broadly reflects the severity of hemorrhage.[9]

CT scanning remains the most suitable commonly available test for defining intracranial pathology. Several grading systems for intraventricular hemorrhage based on CT appearance have been proposed. One of the more commonly quoted is shown in Table 3. Unfortunately, CT scanning requires transport to the radiology suite of premature neonates who may be undergoing mechanical ventilation and be affixed to multiple life support devices. The natural course of IVH requires repeated evaluation which would subject the infant to multiple doses of ionizing radiation. Because of these difficulties, ultrasound scanning has preempted CT as the primary modality for evaluation of premature infants with IVH. Ultrasound has the advantage of portability and lack of ionizing radiation; good concordance of the CT scan with the ultrasound is readily obtained. Ultrasound grading systems for periventricular and intraventricular hemorrhage have also been proposed,[18] but there is not universal agreement in the literature about the best system.

TABLE 3
CT GRADING OF IVH

Grade	Pathology
I	Subependymal hemorrhage
II	Intraventricular hemorrhage without ventricular dilation
III	Intraventricular hemorrhage with ventricular dilation
IV	Intraventricular hemorrhage with panenchymal hemorrhage

(from Papile et al[15])

TABLE 4
SONOGRAPHIC CLASSIFICATION OF PERIVENTRICULAR-INTRAVENTRICULAR HEMORRHAGE

Mild:	Hemorrhage confined to the subependymal periventricular region or accompanied by a small amount of blood in a normal sized lateral ventricle
Moderate:	Intermediate amount of blood in enlarged lateral ventricle
Severe:	Hemorrhage filling the entire lateral ventricle forming a cast, and/or intracerebral extension of the hemorrhage

(from Shankaran et al[18])

MANAGEMENT

Ablation of premature birth would obviously be the best way to deal with this problem. Since this is not entirely feasible, however, transportation in utero to a tertiary center is advised. It has been shown that the incidence of intraventricular hemorrhage at tertiary centers is significantly lower than at less sophisticated facilities.

Two medical regimens have been used with some preliminary success in preventing IVH. The first of these utilized phenobarbital in a loading dose of 1 mg./kg. every 12 hours. In one study of 60 patients, the incidence of intraventricular hemorrhage without treatment was 47% compared to 13% with treatment.[3] Further studies of like design have failed to support the efficacy of phenobarbital. Another pharmocologic agent, ethamsylate, which increases platelet adhesiveness and enhances the polymerization of hyaluronic acid (thereby enforcing the basement membrane), has also shown some promise in preventing intraventricular hemorrhage. In a study of 70 infants,

25% of the treated group suffered IVH as opposed to 51% of the placebo group.[14]

Prevention is obviously not possible in all cases. Before discussing specific treatment of IVH, consideration of the natural course of post hemorrhagic hydrocephalus is pertinent. In a study of 87 infants with IVH, approximately one fourth developed an early rapidly progressive hydrocephalus (Table 5). Treatment of this entity entails the use of immediate measures to reduce the intraventricular pressure. However, approximately half of the patients who develop IVH will never develop hydrocephalus. Observation is adequate treatment for this group. It will be noted that this group usually suffers from a less severe form of IVH. A third group, compromising approximately one-fourth of the patients with this malady, will develop ventriculomegaly without evidence of increased intracranial pressure. In one study, nine of twenty patients showed arrested progression and/or partial or total resolution of hydrocephalus after a period of 12-84 days.[6]

TABLE 5
NATURAL HISTORY OF IVH
N = 87

Course	N	%
Early rapidly progressive hydrocephalus or death	20	23%
No hydrocephalus	47	54%
Ventriculomegaly with NPH	20	23%

(modified from Hill & Volpe[6])

Clearly, if 50% of the patients with intraventricular hemorrhage may be expected to have spontaneous resolution, simple observation is warranted. Close monitoring with ultrasound scanning on a twice weekly basis is recommended. If some indication of progressive hydrocephalus exists, more frequent ultrasounds should be undertaken.

Serial lumbar puncture may be an effective temporizing measure for controlling ventricular dilation. It has been demonstrated sonographically that significant diminution of ventricular size may be seen immediately following lumbar puncture. Effectiveness can be predicted clinically if the turgor in the anterior fontanel diminishes following with the lumbar puncture. It is also important that an adequate amount of fluid, usually ten to twenty ml., is removed. Lumbar puncture does not appear to alter the likelihood of development of later post-hemorrhagic hydrocephalus. In one prospective study of 48 patients, daily lumbar punctures were performed from 7 to 34 days of age until cerebral spinal fluid was clear or protein content of less than 100 mg./dl. was demonstrated. In this study, serial lumbar puncture did not reduce the incidence of development of post-hemorrhagic hydrocephalus.[12]

Pharmocotherapy has been used early in the course of intraventricular hemorrhage to reduce CSF production. It is known that the serum osmolarity is inversely proportional to the cerebral spinal fluid production rate.[7] Dehydrating agents have therefore been used in an attempt to diminish ventriculomegaly. Glycerol in doses of 1 g./kg. every six hours increased over a period of one week to 2 g./kg. every six hours have shown some indication of reducing the incidence of late post hemorrhagic hydrocephalus. In a study of 12 premature infants greater than 30 days old, 7 of 12 infants had resolution of their hydrocephalus. Five of the twelve went on to develop post hemorrhagic hydrocephalus and required shunting.[19]

Acetazolamide is a carbonic anhydrase inhibitor which may diminish the cerebral spinal fluid flow by 50%. The transient effects of carbonic anhydrase inhibitors in diminishing cerebral spinal fluid flow reduces their usefulness. It is also known that carbonic anhydrase is found in myelin and the consequences of the relatively high doses required on eventual myelination are unknown. The ATPase inhibitor digoxin may be utilized to diminish the cerebral spinal fluid production, however, recovery from this inhibitory effect may occur within 60 minutes, limiting the usefulness of this drug.

Compressive head wrapping has been advocated, but this may increase intracranial pressure with concomitant decrease in cerebral perfusion pressure or produce distortion of the cranium which may itself lead to IVH.

External ventricular drainage with a silastic ventricular catheter placed through a subcutaneous tunnel has been used successfully for prolonged periods. In one study with average duration of ventricular drainage of 21 days and maximum duration of 41 days, no mortality or morbidity was accorded to external ventricular drainage. In this report, it was considered that external drainage was only a temporizing measure

and that 80% to 90% of so treated patients would eventually require shunting.[2]

The present authors prefer to manage small (< 1500 gram) neonates by operative placement of an indwelling CSF reservoir, which can easily be tapped percutaneously. Reservoir taps are performed as needed for control of ventricular size as assessed by serial ultrasound examination. Problems attendant to this method include reservoir infection and erosion of the device through the very thin neonatal scalp. Ventriculoperitoneal shunting is the definitive treatment of progressive post hemorrhagic hydrocephalus. It is preferable that the infant attain a weight of 1500 grams prior to placement of a shunt, to prevent erosion of the shunt system.

PROGNOSIS

Outcome of survivors with post hemorrhagic hydrocephalus has been assessed by various developmental quotients. In one report, intelligence was assessed by Denver Developmental scale; a correlation between severity of hemorrhage and function was noted (Table 6). The mild neurologic findings referred to in the table generally represent speech or language immaturity or mild dystonia or spasticity.[9] The moderate to severe deficits refer to severe spasticity or paresis. Survivors of grade II hemorrhage followed for a mean of four and one-half years have been evaluated by McCarthy and Bailey scales (Table 7), and the majority have shown intelligence in the normal range. Differences in intelligence quotients for patients with shunting and spontaneous resolution were not statistically significant in this report.[8]

TABLE 6
OUTCOME OF PATIENTS WITH IVH
(mean F/U = 24 months)

Grade	N	Hydro-Cephalus	Shunt	[DQ]	Neurologic Findings
I	3	1	1	80	normal-mild
II	9	5	2	83	normal-mild
IV	3	2	2	< 60	moderate-severe

(from Krishranoorthy et al[9])

TABLE 7
OUTCOME OF SURVIVORS OF GRADE II IVH WITH HYDROCEPHALUS
(N = 12, mean follow up 4.5 years)

				IQ
5	Resolved			98
7	Shunted			91
	IQ > 90	N = 9	(75%)	
	IQ 70-80	N = 3	(25%)	

(from Krishnamoorthy et al[8])

CONCLUSION

Intraventricular hemorrhage in the preterm infant is a common entity, the management of which requires careful observation and timely intervention. With proper observation and appropriate treatment a reasonably good outcome in a significant number of patients is to be expected.

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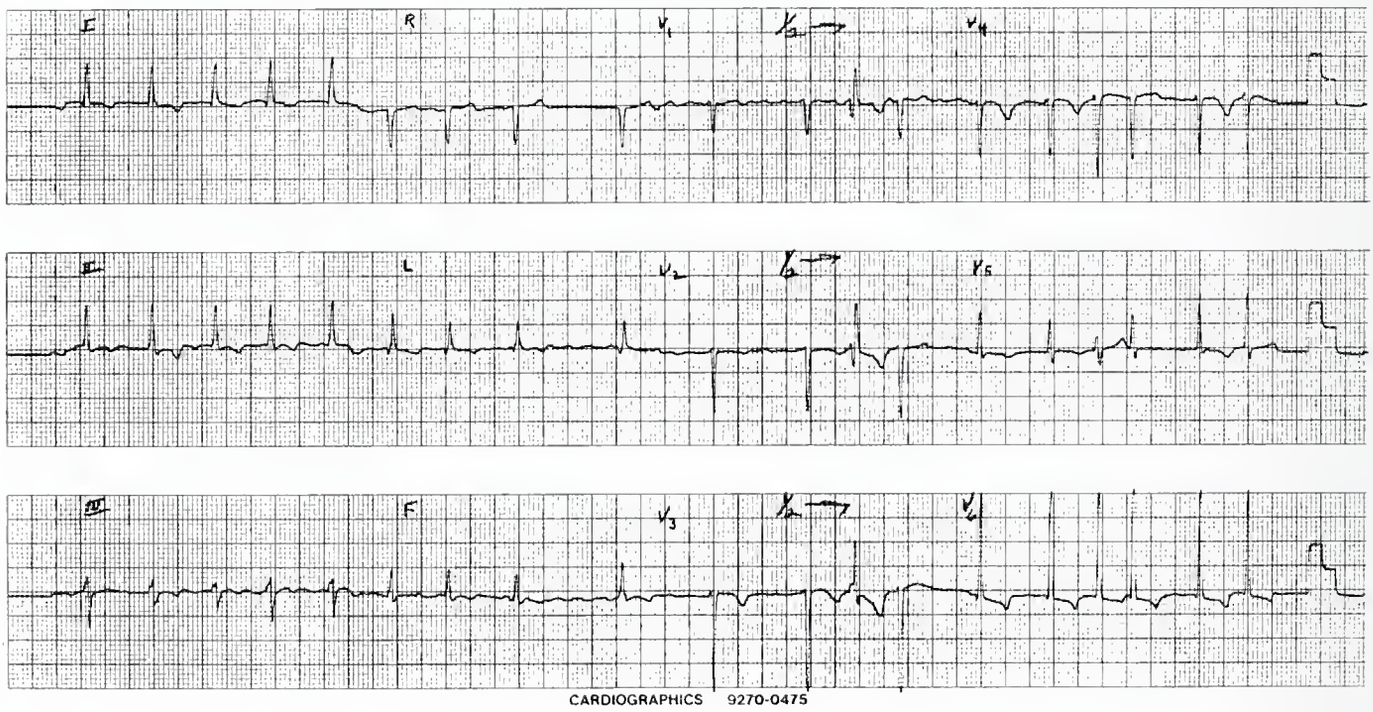
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 516)

HISTORY: T. B. is a 55-year-old man who has presented to the hospital because of palpitations, edema, and nocturnal dyspnea. On physical examination, he has crackles in his lungs, a grade 3/6 holosystolic murmur at the apex with axillary radiation, an S_3 gallop, and edema of his lower extremeties. What do you think about his ECG as it relates to his clinical presentation?



Love Seth, M.D., and John W. Watson, M.D.
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Office Orthopaedics

Disruption of the Flexor Digitorum Profundus Tendon From the Distal Phalanx "Recognition and Treatment"

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Physicians recognize that successful medical management demands that a correct diagnosis precede treatment. The establishment of a diagnosis, in turn, requires the physician be aware of the existing medical entity. In that event, the patient's history and his symptoms, and the findings, serve to stimulate recall of the physician's awareness. It would seem that disruption of the flexor digitorum profundus—especially in young males engaged in contact sports where this injury is encountered most frequently—would be diagnosed readily by the first examining physician. But, contrary to expectation, Leddy and Packer[1] when reviewing 36 patients with "avulsion" injuries of the flexor digitorum profundus at its insertion found: "In three-fourths of the patients, there was a delay in treatment because the nature of the injury was not recognized immediately." Since delay in treatment may preclude satisfactory management of this injury, awareness and recognition, or at least a high index of suspicion, is desirable.

This injury was considered as early as 1891 by Von Zander.[2] McMaster[3] substantiated, through experimentation, earlier clinical experience that normal musculotendinous units which fail under tension do so most often at the insertion of the tendon into bone. The tendon is the strongest segment of the musculotendinous unit.

Disruption of the flexor digitorum profundus tendon from the distal phalanx occurs most frequently in the ring finger. Classically it is precipitated by tension forces, generated through the vigorously contracting long flexor unit of the fingers being opposed by an unyielding external force, which exceeds tissue tolerance. As observed, failure usually occurs through the osseotendinous interface. Less frequently, the distal phalanx will fail through its base. Gunter[4] thought that the high incidence of injury to the ring finger might be related to the existence of the common profundus muscle belly for the middle, ring, and small fingers. Leddy and Packer have observed that the tethering effect on the ring finger through the intertendinous connection of the long extensor mechanism, when the fingers are flexed at the MP joints, may make "it more susceptible to injury by hyperextension or to rupture the tendon when the finger is flexed against a nonelastic object." It has further been postulated that injury to the fourth digit occurs when the fifth digit fails initially to engage and to absorb a portion of the generated tension forces or ceases to absorb that force as a consequence of disengagement from the resisting object. Whether or not failure of the fifth digit to absorb a portion of the strain or anatomical arrangements peculiar to the area are contributing factors, we should observe that greatest grip strength is found on the ulnar side of the normal hand and that the fourth digit is capable of producing a more powerful contraction than the fifth digit. Thus maximum tension forces are generated at, or in juxtaposition to, the osseotendinous junction uniting the profundus

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tendon to the distal phalanx of that finger. Failure will occur at the site where tissue tension first exceeds tissue tolerance—a location presumed to be the "weakest link" of that anatomical chain.

As observed, delay in recognition of the nature of the injury and institution of treatment unfavorably influences the prognosis for recovery. Other factors, including the remaining blood supply of the tendon, the presence and size of a bony fragment as seen on x-ray, and the level to which the tendon retracts, will also influence the outcome.

Correlation of all of these factors with the symptoms and the findings presented provided Leddy and Packer with a basis for classification of the injury into three types with a prognosis for each. They are:

Type I. Disruption occurs through the junction of the flexor digitorum profundus tendon and distal phalanx with rupture of the long and short vincula which carry a significant portion of the blood supply of the tendon. The tendon retracts into the palm where a painful nodule may be palpated. Active flexion of the DIP joint is absent. Flexion of the PIP joint is preserved. The finger is painful and may be slightly ecchymotic. Because of the extensive damage to the blood supply of the tendon, to hope to obtain a good result, repair must be accomplished in 7-14 days before the tendon becomes necrotic and irrevocably contracted.

Type II. This is the most commonly recognized type of injury. In this instance the tendon does not retract out of the finger. The avulsed end of the tendon retracts only to the level of the PIP joint. The long vinculum and the blood supply it transports remains intact. On occasions, a small fragment of bone from the distal phalanx is seen attached to the tendon on roentgenograms. Again, examination demonstrates an absence of flexion at the DIP joint. In addition, the presence of the retracted tendon still in the finger usually results in some loss of flexion of the PIP joint, tenderness over the volar aspect of that joint and signs of an inflammatory reaction in the digit. Because the blood supply of the tendon is less severely damaged initially in this disruption, the period between injury and surgical repair is less critical than in Type I injury. One should observe, however, that a Type II injury may become a Type I if the long vinculum is subsequently ruptured through continued activity of the finger subsequent to the initial injury. Early repair is, therefore, desirable in this group of patients, also.

Type III. This is the least frequently encountered disruption. In these patients a significant fragment of the base of the terminal phalanx is pulled away but remains attached to the profundus tendon. Proximal retraction of the avulsed unit does not occur beyond the distal finger pully because of its bulk. The blood supply of the tendon is less impaired since the vincula are less subject to damage. Swelling, pain and ecchymosis are usually found over the volar surface of the finger. The bone fragment is seen or radiograms just proximal to the often unstable DIP joint. Normal active flexion of that joint is lost while flexion of the PIP joint is retained. Smith[5] has described a variation of this injury in which the tendon was cleanly avulsed from the base of the distal phalanx which in turn was fractured with an extension into the DIP joint. In either Type III, or this variation, early surgical repair to reconstruct the articular surface of the bone and to reattach the tendon to the distal phalanx is essential if the patient is to obtain the good result which young athletes need.

Late untreated cases or poor results can be salvaged in part by an arthrodesis of the DIP joint when the deformity is symptomatic due to pain and/or instability. If asymptomatic, the late injury may be left untreated. Honner[6] has reported success with a two stage tendon graft in late untreated cases. However, one must weigh the potential complications of tendon grafting through an intact functioning superficialis tendon against alternatives available before determining that the disability warrants that formidable procedure. Usually such will not be the case.

Awareness of this not uncommon injury in young athletes should make an early diagnosis and type classification possible by the initial examining physician in most instances. An early, properly executed, repair will usually be rewarded by a result which will be satisfactory to the physician and to the patient.

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PUBLIC HEALTH AT A GLANCE

Calcium: Current Concerns About Adequacy For Long Term Health

Mary T. Bell, R.D., M.S.,* and Carole B. Garner, R.D., M.P.H.**

Calcium in the diet of Americans has received a great deal of attention in the past few years. Research as well as expanded life spans, with their relationship to fractures requiring long term institutional care, have stimulated this interest. It is suggested, therefore, that health professionals take an interest in their patients' calcium intakes in order to encourage retention of bone mass and prevent osteoporosis.

The National Institute of Arthritis, Diabetes and Digestive and Kidney Disorders in 1983 stated that fifteen (15) million or more Americans have some degree of osteoporosis. In 1980, the Mayo Clinic published a study which stated that 150,000 hip fractures occur yearly in the U. S. as a consequence of osteoporosis and that related patient care costs are annually in excess of 1 billion dollars. Osteoporosis is difficult to ascertain by X-ray until at least 25-40 percent of the calcium is lost from the bone mass; and at this stage, the person is a good candidate for fractures.

As generally known, middle aged and elderly women have the highest risk of osteoporosis and osteoporosis is 8 times as prevalent in women as in men. Several factors that contribute to this are: women have less bone mass than men due to their generally smaller size; bone mass loss is accelerated at menopause; and pregnancy and lactation may decrease the skeletal reserves of calcium. Depending on height, an adult man's body contains about 950 to 1300 grams of calcium while an adult woman's contains between 770 to 920 grams. Throughout their lives women are known to have smaller calcium intakes. Between ages 15-50 men consume two times more calcium than women.

In adulthood, bone is constantly being resorbed and formed though this process is slower than at younger ages. During the adolescent period about 45% of the adult's skeletal mass is formed. Bone mass continues to increase to about age 40 and unless a person has adequate calcium intake during this time, bones never reach their potential.[3]

Relating to this, a study concerning two regions in Yugoslavia has been published by Dr. V. Matkovic and associates. The populations were matched for physical activity, ethnic origin and lifestyles but they had broadly different calcium intakes. In a group of men where 800-1000 milligrams calcium per day were consumed there was greater peak bone mass at age 40 and a lesser number of hip fractures for men of all ages. In the other region where daily calcium intakes were 350-500 milligrams there was a greater number of fractures. The difference in bone mass between the peoples of the two regions was obvious at age 40 and this bone mass showed no increase with age.[1]

The Recommended Dietary Allowance for calcium is 800 milligrams for adults. The Second National Health and Nutrition Examination Survey, 1976-1980, showed that less than 33% of women from ages 18-74 have adequate calcium intakes on any one day. And less than 25% of women, after age 35, have adequate calcium intake. This same survey showed that 25%-50% of males consume less than 800 milligrams calcium on any given day. Noting these figures, the public health nutritionist thinks of the number of times where carbonated beverages are used as meal or snack accompaniments.

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Herta Spencer, M.D. and associates at the VA Hospital, Hines, Illinois, reported that 1000-2000 milligrams calcium were required daily to achieve zero or slightly positive calcium balance in 181 males, aged 34-71.[2]

Dr. Robert Heaney and his group reported in 1982 that 1200 milligrams calcium daily was required to achieve zero calcium balance in 130 women, 30-35 years of age. These women had self selected diets. This same research group in another study of young female adults showed a need for 1000 mg. daily for zero calcium balance.[7]

This year the National Institute of Health Concensus Development Conference on Osteoporosis was convened. A panel of knowledgeable physicians, researchers and consumers issued this statement, "It seems that an increase to 1000-1500 milligrams (calcium) a day would reduce the incidence of osteoporosis in postmenopausal women." The concensus panel recommended consuming extra calcium either from foods or from supplements. Exact age for implementation of this course of action was not suggested. However, William A. Peck, M.D., Washington University School of Medicine and chairman of the concensus panel suggests that women should start obtaining 1000 milligrams daily when they are in their 30's and 40's.[3] Additionally, he advises that women who are on estrogen replacement therapy should have an intake of 1000 milligrams per day and that postmenopausal women who are not on estrogen should have 1500 milligrams of calcium daily—nearly double the current RDA of 800 milligrams. Recommendations by the concensus panel are controversial as they are a decided change in the current recommended allowances.

Many women who have a dislike for milk or who have a lactose intolerance would find it necessary to take supplements in order to meet the new allowance. There are a number of calcium supplements on the market, each with its advantages and disadvantages. Included here is a table which gives information on the currently marketed ones. Dr. Heaney, et al, at Creighton have reported research in 1984 that indicates milk drinking is a better preventive for osteoporosis than supplements of calcium carbonate. Calcium supplement research is further encouraged by all interested groups.

CALCIUM SUPPLEMENTS (96-100)

Form	% Calcium	Comment
Calcium Carbonate	40	Relatively insoluble. Not absorbed well in individuals who lack sufficient stomach acid. May cause constipation. Used in several antacids.
Calcium Chloride	36	Rarely given orally. May irritate the stomach.
Calcium Lactate	13	Contains relatively little calcium.
Calcium Gluconate	9	Very little calcium.
Bone meal	31	Also contains phosphorus, sodium, magnesium, potassium, sulphur, copper, and iodine. May be contaminated with toxic metals such as arsenic, mercury, lead, cadmium, and others, although the significance of this is unknown.
Dolomite	22	Also contains magnesium, chloride, iron, and phosphorus. May be contaminated with toxic metals such as arsenic, mercury, lead, cadmium, and others. Major ingredient in several antacids.

Courtesy, National Dairy Council

CALCIUM EQUIVALENTS

Foods that contain approximately the same amount of calcium as an 8-ounce cup of milk:

buttermilk, milk	1 cup
cheddar cheese	1½ oz.
cottage cheese	2 cups
yogurt	1 cup
processed cheese	1½ slices
ice cream	1½ cups
ice milk	1½ cups
tofu	8 oz.
broccoli	2 cups
collard, turnip greens	1 cup
kale, mustard greens	1½ cups
oysters	1½ cups (about 16 medium)
salmon	4 oz.
sardines	2½ oz.

USDA Handbook 456

Many foods contribute calcium to the American

diet. Major sources are milk, cheese, ice cream, yogurt, buttermilk, and other milk products. A tall glass (8 ounces) of milk contains about 300 milligrams of calcium, and a slice of Swiss cheese contains 270 milligrams. People who are watching their weight should select low-fat cheeses and skim milk. Other dietary sources include canned sardines and salmon, and dark green leafy vegetables, but the amount they provide is minor when compared to milk products.

People who suffer an inability to digest milk sugar find that consuming milk or milk products causes indigestion, gas, and diarrhea. Nevertheless, people with lactose intolerance may be able to tolerate milk if they consume it in small portions throughout the course of the day, or if they substitute partially fermented forms of milk, such as cottage cheese, buttermilk, sour cream, and yogurt, plus hard cheeses. They can also try an enzyme powder sold in drugstores known as Lact-Aid. This, when added to milk, predigests much of the milk sugar, making possible its absorption in many cases without causing diarrhea. The absorption of calcium is not adversely affected.

For some individuals, it is just a personal preference that keeps them from adequate calcium intakes. People who simply don't like the taste of milk might try disguising it in ice cream, hot cereal, puddings, omelettes, baked goods, and casseroles. Strict vegetarians who avoid eating milk products often fail to obtain enough calcium. The use of 8 ounces of tofu (soybean curd) daily is a good substitute source of calcium. At 160 calories, it contains 288 milligrams of calcium. That's the same as a glass of milk, but with twice the protein.

Dietary factors as well as other factors have an impact on amounts of calcium absorbed. The most recognized and important factor in calcium absorption is Vitamin D.

Daily exposure to sunlight, Vitamin D in foods or multi-vitamin tablets containing Vitamin D can provide for adequate calcium absorption. When sunlight exposure is low or a person is not drinking milk (our principal source of Vitamin D enrichment) there may be a subclinical deficiency. Some researchers are discussing also reduced calcitriol production, the hormonal form of Vitamin D, in elderly patients. Too, there can be an alteration in parathyroid hormone and renal excretion of calcitriol. Dr. Robert Heaney gives a good discussion of this in his *American Journal of Clinical Nutrition* report, November, 1982.

High protein diets as well as a food intake of higher than normal phosphorus can decrease calcium utilization. These are both food patterns that are seen in many Americans.

Lactose, the main carbohydrate in milk and milk products, has been shown by pediatric researchers to increase calcium absorption. Milk intake is a real plus in increasing calcium utilization.

Other dietary factors which appear to have an effect on calcium absorption or loss are Vitamin A and fiber. The American Society for Bone and Mineral Health reports that 75,000 I.U. per day of Vitamin A can stimulate bone loss. Some acne treatment regimes could prescribe this amount, or more. There have been journal reports that indicate that increased fiber in the diet can decrease the bioavailability of calcium. With the current trend towards recommending increased fiber, this is a factor to be considered.

Additionally, either low calorie diets or vegetarian diets where dairy foods may be eliminated can be a significant problem when considering adequate calcium intake. It would be good practice in both these situations to suggest that a patient obtain counseling from a registered dietitian concerning dietary calcium recommendations.

Bioavailability of calcium can be altered by a number of medications. A table depicting this is included.

SOME COMMONLY USED DRUGS WHICH DECREASE CALCIUM RETENTION (6,19,28,45,49)

Drug	Use
Isoniazid (INH)	treatment of pulmonary tuberculosis
Corticosteroids	anti-inflammatory agents for treatment of skin diseases, asthma, arthritis
Heparin	anticoagulant
Tetracycline	antibiotic
Aluminum-containing antacids (for example, Maalox,[2] Mylanta,[2] Amphojel,[2] Gelusil[2])	treatment of peptic ulcer, gastro-intestinal diseases
Furosemide	diuretic
Caffeine	in coffee, tea, some soft drinks
Nicotine	in cigarettes

Courtesy, National Dairy Council

A natural consideration in osteoporosis prevention and treatment is estrogen. When estrogen is decreased at menopause, less calcium will be absorbed as well as more being excreted (a net loss of 1 gram every 40 days).[4] A study reported, November 1984, indicates calcium loss in adult women during first two decades post-menopausal is due more to estrogen decreases than aging.[8] Estrogen supplementation has stirred some controversy because of a slight risk of carcinoma. The most recent research indicates that the risk is small enough to encourage estrogen therapy in some selected cases that would require careful follow-up.

Use of fluoride supplementation is controversial at this point.

A number of disease entities can influence absorption of calcium. Primary biliary cirrhosis, celiac disease, chronic renal failure, alcoholism are among these.

Alcoholism as a factor in calcium metabolism is receiving increased current attention due to skeletal demineralization noted in young alcoholics. Alcoholism leads to poor dietary intake, can cause steatorrhea, and has an effect on intestinal mucosal cells. Alcoholism and resulting liver damage can also alter Vitamin D metabolism.

Physical inactivity has been cited over a number of years as encouraging bone loss. Recently a study has shown that nursing home residents with increased physical activity can increase bone mineral content by 4.2 percent. In the same time interval, 36 months, the inactive control group lost 2.5 percent.[9]

When calcium intake, absorption and loss are discussed; widely varying dietaries, different amounts of sunlight exposure and exercise, and points in the life cycle also must be considered. This makes obvious the fact that varying Recommended Dietary Allowances are needed for subsets of the population. New Recommended Dietary Allowances are due to be published in the first half of 1985. The current 800 milligrams for adults may be adequate for some individuals, but needs to be raised for certain groups.

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EDITORIAL

Medicine Era 1985

Alfred Kahn, Jr., M.D.

The field of medicine is currently changing with giant steps. The amount of research appears to be going on at an ever-increasing rate, as measured by the vast number of articles in the many medical journals currently being published. There have been no striking research developments in medicine which lend themselves directly to the practice of medicine at this time—as the Salk vaccine for example.

The practice of medicine is in a period of drastic change. In the midst of a recession associated with inflation—a rather unusual situation—the cost of medicine has risen with the inflation; the physicians' fees are probably well in line with the inflation levels, but undoubtedly, the cost of hospital care has risen above the average inflation rate. In this setting, the public has become increasingly disturbed by the cost of medical care and various remedies and treatments have been recommended. The painful part of this situation is that physicians' fees have not risen inordinately, but they are generally tarred by the same brush that covers hospital bills and drugs. The rising cost of hospital care is a product of inflation, rising labor costs, rising equipment costs, rising supply costs, rising administrative costs and the perception of the hospital administrators and boards of trustees. It is difficult for the public to differentiate the parts which make up the cost of medical care. To the public, it's the bottom line that counts—the total cost of medical care—which seems high compared to the previous relative plateau of medical costs.

The cost of medical care has become high enough to be a political issue as well as a health issue and a sociologic issue. A similar situation obtained just after World War II when prices had risen in various fields—and the cost of medical care had gone up. There was a hue and cry for socialized medicine at that time. Furthermore, there were several mean gaps in medical care coverage which do not currently exist. Firstly, medical insurance was not universal and, in fact, it was a very limited commodity. Secondly, the medical insurance which was obtainable often was cancelled at 65 years of age, producing a second lapse in coverage. The medical profession at that time quickly decided that some steps needed to be taken—and that total government medicine was not the answer. The problems were relieved at that time by advertising the advantages of having medical insurance which became very widespread during the 1950's and 1960's. Secondly, Medicare began picking up part of the tab for the cost of medical care in the older age groups. The increase in medical fees and hospital costs were very moderate and there was a virtual plateau, or at least a gradual slope up, until a couple of years ago when stagflation occurred. Now the cost of medical care is again under close scrutiny and many plans for medical economics have been bruted about. The most dangerous plan for the public would be so-called socialized medicine or government-operated medical care has been called by some a national health care program. It is all the same thing, and the expression "socialized medicine" probably best sums it up. With this scheme, the physician is paid by a unit of government and he is a servant of the government and no longer in the private enterprise system. The situation in Great Britain is well-known and if it is to be used as a model, then the public has to be prepared for physicians who work for the government a set number of hours and a set number of days. The incentives of private enterprise are lacking. Patient care, which is the real name of the game in medicine, suffers from physicians who may be too busy with long lists of patient assignments and an impersonal selection of physicians at all levels of care by third parties as well as the

patient. Quite aside from the physician-patient relationship, which is directly handled in socialized medicine, there is a danger of so-called "brain drain." Qualified doctors may move to a different geographic area—even out of the country; secondly, individuals who would like to practice medicine may become so disenchanted with the mode and character of medical practice that they go into other scientific pursuits instead of medicine. Lastly, government ventures into the financing of vast social schemes often suffer from economic problems. It is well-known that the cost out of each tax dollar spent by local government — for administration — is only a fraction of the cost of administration when the tax dollar is sent to Washington. For many reasons, the administration of tax monies on a national level required proportionately higher fractions of the tax dollar than programs administered locally. The Social Security system and the Medicare system have both been administered by well-meaning government, and yet, they have both reached a financial crisis that may endanger their being—and which may require a considerable retrenchment of services unless buttressed by outside sources of income.

The real question concerning the economics of medicine is how much is it worth to stay healthy and to regain one's health if ill? It is difficult to quantitate this in dollars. The answer is that it demands that doctors ask for fair compensation and that the public be willing to pay fair and reasonable prices for these services. It is better to have a direct payment between the physician and patient so that money for administration of the payment is not spent by government—thus incidiously decreasing the amount the patient pays and the amount the physician receives. It is a matter of philosophical interest that the public, in general, is perfectly willing to pay for goods such as automobiles, refrigerators, home computers and a variety of other hard goods, whereas there is some reluctance on the part of the public to want to pay for services such as professional fees. It is only human nature to want to pay for tangible objects that bring pleasure as opposed to intangible objects which are associated with disagreeable aspects of our lives.

Of particular interest during the last few months is the matter of the gradual erosion of medical ethics. It is curious that government mandates have crossed the barrier into true professional ethics. It was considered highly unethical for a physician to advertise directly or indirectly in years past. A government edict destroying this aspect of medical ethics has lead to widespread advertising among physicians. The fall-out of this is perfectly obvious. First of all, advertising by physicians tends to focus attention on the economics of getting patients well rather than the more professional aspect of the physician-patient relationship, namely, the physician's duty to get the patient medically well. Some medical advertisements may mislead the patient into expecting more medical benefits that the physician cannot deliver. Lastly, advertising among professional people often leads to internecine strife, which is very destructive in a profession where free exchange of legitimate information is very necessary.

One big area of new development in the past several years is the mode of delivering medical care. Years ago, general physicians saw patients in their offices, at home and in the hospital for their initial medical problems. They performed well and no one can argue that the quality of medical care patients have received from general physicians has been extremely high. The cost of medical care by general physicians is reasonable. In this scenario, why should the so-called quick-food type medical clinic arise; these small clinics usually dotted throughout urban communities offer walk-in, reasonably rapid medical care to patients. As a rule, there is not any attempt at continuing horizontal or vertical care—meaning that the patient has often not been seen by the little clinic before nor will the patient be seen and followed thereafter — thus horizontal care. The physicians in these small clinics often do not hospitalize patients for more sophisticated treatment by themselves or in conjunction with other physicians—thus no, so-to-speak, vertical care of the patient. It is a matter of continuing interest why the public would prefer to go to physicians whom they do not know for drop-in care rather than to see a good family physician who knows their problems or who will take care of them for reasonable fees. It is manifestly almost impossible for a drop-in office visit by an unknown physician to assess the patient's needs and necessary laboratory tests, if compared to the ability of a wise general physician who knows the patient—and who can make an appropriate diagnosis based on previous knowledge and who can, for the same reasons, get laboratory tests which will more per-

tain to the patient's medical condition. It's the difference between using a rifle which hits a small target or a shotgun which sprays all around the general area at which one aims. The public has been conditioned to use convenience stores and fast-food stores; this philosophy seems to be carrying over into the field of medicine and the real need for it and the benefit from it seems to be obscure.

Pre-payment health plans through medical organizations appear to be very much in evidence. This is not a new concept. It tends to assure the public that they will receive a given amount of medical care for a given amount of dollars. In economic theory, these organizations seem to be fine; in practice, the question arises as to whether or not the patient gets the individualized care by a personal physician to the same extent that the individual would obtain from physicians who bill each visit for the services rendered. Human nature being what it is, there will be a tendency of some physicians to do less for the patient in a pre-paid setting. This does not imply that every physician will do so or that a majority of physicians will do so, but it does imply that there may be a subtle decrease in the time and even perhaps the effort given patients who are seen in pre-payment plans. Pre-payment plans will certainly be a necessity if the cost of physicians' care gets out of hand. As of this writing, the cost of physicians' care (not hospital care), has certainly been in line with the rise in prices elsewhere—perhaps not year by year—but in the long haul. No real judgement can be made at this time about the care, cost, mode of delivery and patient care quality of pre-payment plans. Many years ago, one such plan was pioneered in Little Rock, Arkansas, and it met with great disapproval by the physicians of the community. It was eventually dropped, but the economic setting at the time of its inception and use was different from those which obtain at the present time, and a valid comparison is not really possible.

There is a professional aspect to health care organizations which has some unpleasant overtones in that they attempt to control not alone the mode of medical practice, but by whom the professional services shall be administered. The mildest form of this are the lists published by insurance companies designating physicians who work with their plan. This is a subtle form of advertising which implies preferential treatment for the physicians who agree to accept the insurance companies' plans. The next step upward is that some general medical care organizations agree to refer patients for more specialized treatment to certain specialists and subspecialists without the patient having free choice of physicians. This strikes at one of the fundamental tenets of medical ethics as it used to be understood. In short, an economic arrangement is made between physicians as the basis of patient referral rather than free choice by the patient based on the patient's perception of different physicians' ability to deliver quality medical care. It should be pointed out that the above does not imply illegal practices or unethical practices, but it does point out a change in medical practice and the change in the financing of medical practice due in a very large part to inflation and government pressures.



ANSWER — Electrocardiogram of the Month

DISCUSSION: The mechanism is otrial fibrillotion. The third beot in V_1-V_3 terminates o short cycle which fallows a long cycle. This beat is wider than his other beats but does not exceed 0.10 seconds. The beat is in right bundle bronch pattern and its initial 0.04 second deflection is similar ta thot of the surraunding beats. Thus, this beot is mast probably an abberantly conducted suproventriculor beat and nat o ventricular ectopic contractian. Additionally, the troce has voltoge and ST-T chonges to suggest left ventricular hypertrophy. The patient's history and physical examinatian suggests biventricular failure with mitrol regurgitation. The ECG is compotible with chronic mitrol regurgitation. Obviously, the patient would require further evaluation before other than nanspecific theropy for heart failure should be given. The feature editor wishes to thank Dr. Seth of the UAMS Cordiology Division for his ossistance with this month's electracardiagram.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Profiles of Arkansas Medical Figures
Corydon McAlmont Wassell, M.D.
1884 – 1958

Richard B. Clark, M.D.*



Corydon M. Wassell was born July 4, 1884, at 2005 Scott Street, Little Rock, Arkansas. His undergraduate work was at Johns Hopkins University and he received his MD degree from the University of Arkansas School of Medicine in 1909.

Dr. Wassell practiced at Tillar in Desha County from 1909 to 1913. He was a medical missionary in China for many years where he took special courses in neurology at Peking University and in parasitology at Hunan Yale. He married Irene Yarnell, a teacher and missionary nurse in China and had four children.

At the time of the Depression Dr. Wassell was back in Arkansas, fighting malaria. He joined the Naval Reserve in 1940, where he was awarded the rank of Lieutenant Commander. Dr. Wassell was on the island of Java in 1942 caring for wounded members of the cruisers Marblehead and Houston when the Japanese attacked. Rather than let his patients fall into the hands of the Japanese, he organized a truck convoy and took his patients to the south coast of Java where on March 1, 1942, he found a small Dutch ship enroute to Australia. Despite Japanese air attack the voyage was successfully completed, and he was awarded the Navy Cross for his exploits. This experience was the subject of a book, by James Hilton, and a motion picture "The Story of Dr. Wassell." The movie starred Gary Cooper, was produced by Cecil B. DeMille, and premiered at Little Rock, April 26, 1944. President Roosevelt cited Dr. Wassell's exploits during a radio broadcast on April 28, 1942.

Dr. Wassell retired from the Navy with the rank of Rear Admiral. He returned to Little Rock in September 1956 to spend his last days with his family. He died in Little Rock on May 12, 1958. A son, John R. Wassell (MD University of Arkansas School of Medicine, 1943), practiced in Little Rock for many years at 5305 Kavanaugh. The son died in April, 1981, aged 59. He was on the Medical Staff of the Little Rock VA Hospital and Baptist Hospital. Dr. C. M. Wassell has been nominated as one of three outstanding physicians from Arkansas to the Medical Hall of Fame in St. Louis, Missouri.

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MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

'Baby Doe' Draft Regulations Published

Once again tackling the issue of when to withhold treatment – and how to intervene when treatment is inappropriately withheld – the Department of Health and Human Services (HHS) in December published draft "Baby Doe" regulations to implement the new Child Abuse Prevention and Treatment Act amendments passed by Congress earlier this year.

The proposed regulations more narrowly define instances when treatment should be withheld than the broader language of the Act. According to the proposed regulations, care should be withheld only when:

★ The infant is chronically and irreversibly comatose.

★ Treatment would not correct all of the infant's life-threatening conditions. (These are conditions that would significantly increase the "risk of the onset of complications that may threaten the life of the infant," HHS said.)

★ Treatment would merely prolong dying. (These are situations when "death is imminent," according to HHS, and would not include a more lingering death by diseases such as Tay-Sachs.)

★ Treatment would be virtually futile and inhumane, meaning that treatment is highly unlikely to prevent imminent death.

Additionally, the proposed regulations "strongly recommend" the establishment of Infant Care Review Committee (ICRCS) in hospitals that care for infants, especially those with tertiary level neonatal care units. The committees could educate hospital personnel, recommend institutional policies, and offer counsel and review in Baby Doe cases, HHS stated.

The comment period will end February 8. Final regulations will be issued before March and states will have until October 9, 1985, to comply. Funding for the program, for such as medical consultations, will come from state child abuse grants.

The American Medical Association, which has successfully fought earlier Baby Doe regulations in the courts, immediately announced that it will use the public comment period to voice its continuing concerns regarding the amendments and the regulations.

"The Association continues to believe that the public does not agree with the goal of this legislation—which is to have government intrude into the right and responsibility of a mother and father to consult with physicians, clergy and other advisors and make a decision about the nature of their child's treatment," AMA Executive Vice President James H. Sammons, M.D., said. "The Association will continue to help protect the rights of families and to challenge the implementation of this legislation when it violates those rights."

Under the proposed regulations, Baby Doe cases will be treated like any other case of child abuse, with intervention by state authorities to prevent medical neglect. The state can pursue any legal remedy to prevent withholding of medically indicated treatment. Any investigation, however, must include coordination and consultation with a designated member of the hospital.

The proposed regulations are tied to the child abuse funds that the federal government dispenses to states each year; thus, any state willing to give up the funding would not be required to comply with the Baby Doe regulations. Last year, states received a total of $16.2 million—an average of $324,000 per state—to administer these child abuse programs.

The proposed regulations are different from the "section 504" regulations issued last year and twice rejected by the courts. Whereas the earlier regulations were based on laws prohibiting discrimination of the handicapped, the new regulations are based on laws prohibiting child abuse. There are important philosophical differences: the earlier "504" regulations insisted that handicapped children be provided the same care as non-handicapped children; the new regulations say that handicapped children be provided the best care for their certain circumstances, and admit that there are circumstances when no care

at all is the best course.

The earlier "504" regulations demanded federal intervention, with hotlines and investigative squads. The proposed regulations leave all intervention up to state authorities (some state child abuse programs already have hotlines and conduct investigations). The exact implementation of the law will depend on procedures set up by each state.

In an unrelated action, HHS asked for comments on guidelines that establishment of Infant Care Review Committees (ICRs) in hospitals that care for infants, especially those with tertiary level neonatal care units. Although the committees are not required, they could educate hospital personnel, recommend institutional policies, and offer counsel and review in Baby Doe cases, HHS stated.

* * * *

HHS Savings In Medicare

The Department of Health and Human Services expects to save an estimated $3.7 billion over the next five years as a result of actions taken in 1984 on recommendations of the Department's Inspector General.

The savings represent a $58 return on each dollar spent by the IG's office.

Detailed in the IG's year-end report to Congress, most of the $3.7 billion is estimated future savings from program changes legislated or implemented at the recommendation of the IG. The remainder is due to recoveries and fines imposed on program beneficiaries, providers and contractors.

The bulk of the savings—which are 166% higher than those of the previous year—occur as a result of legislative changes in the Medicare and Medicaid programs, particularly those affecting payments to clinical laboratories. They also include recoveries of inappropriate or fraudulent charges and fines for fraudulent or abusive behavior.

Some 900 individuals were prosecuted for attempting to defraud HHS programs and another 400 convictions were obtained by state Medicaid fraud control units. Of these, 327 health providers or suppliers were "kicked out" of Medicare and Medicaid and $7.5 million was recovered in settlements under the Civil Monetary Penalties Act.

The report also recommends other program changes the IG contends could result in further savings. These include a mandatory second opinion program and a plan that would round down to the next lowest dollar any odd penny claims from patients or their doctors for Medicare-covered physician services.

* * * *

Capital Costs Considered Under PPS

Administration officials indicated in December that the fiscal 1986 budget may bring capital costs into Medicare's prospective pricing plan.

When it moved Medicare from cost-based payments to a prospective pricing plan based on diagnosis-related groups (DRGs), Congress left capital under the old cost-based system but required that it be brought into the DRG system by October 1, 1986. A report on how the Department of Health and Human Services proposed to do this was due to Congress last November, but the report is late.

The capital proposal, which may become a part of the budget proposal, reportedly is likely to add about 7% to each of the 468 DRGs to cover Medicare's share of hospitals' capital expenditures. Although existing capital spending commitments probably will not be exempted from the plan, the provision may include a transitional plan to alleviate the impact of the proposal on hospitals in the middle of expensive building or renovation.

Meanwhile, Sens. David Durenberger (R-MN) Chairman of the Senate Finance Committee and Robert Dole (R-KS), the new Senate Majority Leader, have written HHS Secretary Margaret Heckler to ask why the capital report has not been issued.

Durenberger also has proposed a block grant to replace Medicare's pass-through of the direct costs of medical education. The Administration supports this approach and is said to be working with Durenberger to design a single block grant to include the Medicare payment for medical education along with the Public Health Service's health professions education assistance program. This proposal also may be part of the 1986 budget proposal.

* * * *

Durenberger Said To Doubt DRGs For Physicians

Sen. David Durenberger (R-MN), who heads the Senate Finance Health Subcommittee, reportedly is having doubts about plans to include physicians in a prospective pricing scheme based on diagnosis.

Durenberger, whose influence on health policy

is expected to expand as a result of changes in Senate Republican leadership, had previously said he favored the inclusion of a physician payment in each of the hospital DRGs.

Recently, however, Durenberger has said that while he still thinks physicians will have to be brought into a prospective system, he is not certain that DRGs are the best way to do this. That view has also been reiterated by Durenberger aide Chip Kahn.

Addressing a recent meeting of the American Health Planning Association and the National Health Lawyers Association, Kahn said he thinks rushing into a DRG for physicians is a little frightening. He suggested that research on a physician DRG has had mixed results and expressed concern that a doctor DRG could change the physician-patient relationship. Senate staff will be very cautious on the issue of physician reimbursement changes and on inclusion of capital expenditures in DRGs, he predicted.

* * * *

VA To Backstop Military Medicine In Event Of War

The Veterans Administration, the traditional provider of care to veterans, now has a new mission: to backup the Department of Defense in the event of a war or national emergency.

Results of a new survey show that the VA can promise the military 19,000 beds within 72 hours and 31,000 beds within 30-45 days.

Service-connected veterans still will be first priority for the VA system. Non-service-connected veterans, however, will be transferred to private hospitals to make room for incoming servicemen.

The VA would receive patients as the DoD's medical facilities become saturated. When the VA's beds are filled, military casualties will be sent to backup civilian hospitals. In practice, the very seriously wounded patients — those with spinal cord injuries, burns, and blindness, for instance—would be shipped immediately to VA facilities for long-term care.

The system, part of a larger VA-DoD sharing plan enacted into law in 1982, was prompted by increasing concern over the cost of medical care in the nation's federal hospitals. The law, PL 97-174, upgrades the priority for VA care of the active duty casualty and gives the VA the flexibility it needs to enter into long-range plans with DoD.

The system depends on 71 primary receiving hospitals to care for the first wave of casualties. The hospitals were chosen because they are near the point of military debarkation, contain at least 150 beds, and are within 50 miles of a VA or DoD coordinating center.

Secondary receiving hospitals, although less well-equipped for a major influx of casualties, will share resources and accept patients from the primary receiving hospitals. Third tier installation support centers will provide health care support to medical personnel deployed out in the field.

All 28 VA medical districts have established contingency planning task forces that have been cleared by the district and regional levels and are now awaiting final review at the national headquarters in Washington.

* * * *

America's Proposed National Disaster Medical System

India's recent gas leak sent more than 10,000 people to hospital emergency rooms, but hundreds of victims were treated on the lawns outside the city's hospitals because all the beds were full.

In the Mexico City gas explosion, burn patients crowded into hospital hallways; churches and a subway station became first aid centers. Blood, plasma, and medical supplies ran dangerously short in the seven hospitals treating the city's 3,000 victims.

How could the United States respond to similar disasters?

Trained medical assistance teams could rush to the scene to perform field rescue and first aid. The most critically injured would receive surgery at the disaster scene; the less seriously injured would receive first aid until ready for evacuation. As many as 100,000 patients could be distributed to hospitals awaiting them with supplies and personnel.

The planned National Disaster Medical System is being developed in response to President Reagan's 1981 mandate to improve emergency preparedness. Modeled after a Department of Defense plan to handle excess casualties in military conflicts, the NDMS is designed to respond to a wide range of emergency situations. Two pilot disaster units are already operating; others will form within the next three years.

NDMS will provide nationwide medical help when local, state, and regional facilities are overwhelmed by a serious disaster, Thomas P.

Reuthershan of the Department of Health and Human Services said recently. It is not designed to replace local disaster relief teams but will supplement local efforts with a broad-based network of national support.

The system would be triggered by three situations: a Presidential declaration of a major disaster, a state request for help, or a major war or national security emergency.

The U. S. now has the lowest number of available hospital beds in history. NDMS could support only a conventional, non-nuclear war in which the U. S. is not under direct attack, authorities note; a nuclear war would overwhelm the capabilities of the NDMS system.

No single community can be fully prepared for war or a catastrophic event, said Reuthershan. Although all cities and states are well-stocked with medical supplies, it is virtually impossible to anticipate a sudden surge of injuries.

The system is a showcase of private-sector volunteerism. It would require no new hospital construction. Nor would it demand the purchase of extra equipment, or training of special staff.

Although modeled on Washington, D. C., the actual implementation of the system is decentralized in 71 communities across the country. A national center — composed of representatives of the Department of Health and Human Services, Department of Defense, Federal Emergency Management Agency, the Red Cross, and other federal and private health agencies — would manage the federal response to a disaster.

Medical teams would be trained as volunteers, although compensated for their work during an actual emergency. Hospitals of 100 or more beds would also enroll, volunteering to participate in training and exercise programs but receiving compensation for each patient. Medical supplies would be provided by pre-existing Packaged Disaster Hospitals; patients would be evacuated on Air Force helicopters, or on commercial jets, trains, and buses.

* * * *

Congress' OTA Looks At ICUs

Because intensive care unit (ICU) patients are "revenue losers" under the diagnosis-related-group (DRG) system, hospitals may feel pressure to change the way they offer ICU care, a new Congressional office of Technology Assessment study concludes.

"The new incentives of the DRG payment system will be imposed in many hospitals in which the costs of ICU care had previously been a relatively minor concern," according to a report of the study.

Hospitals may decide to reject ICU cases, transfer them to other facilities or accept them at a loss. They may ration ICU care to only certain favorable-outcome cases, or impose cost-controls on ICU physicians, it states.

ICU decision-making could become even more difficult due to the potential financial conflict between patients, physicians, and hospitals, the report warns.

ICU hospitalization days are 3-3.5 times more costly than non-ICU days. In addition, ICU patients have longer hospital stays than non-ICU patients. It has been estimated that 15-20% of all patients are cared for in an intensive or coronary care unit at some point during their hospital stay.

A very small portion of the ICU patient population consumes a substantial portion of total ICU resources. ICU care appears to be well-invested in cases of acute, reversible disease such as a drug overdose or major trauma; ICU care may be less cost-effective in severe, debilitating chronic illnesses such as cancer or cirrhosis, the report states.

Until recently, ICU care has not been subject to the same restraints as intermediate or general care. For example, 1980 Medicare rules tightened the payment limits on routine bed costs but not on ICU bed costs. Furthermore, utilization review boards generally do not consider the appropriate level of care within a hospital.

ICU physicians feel little incentive to keep the unit empty or restrict technical procedures. The current system of physician payment — based on a usual, customary, and reasonable charge system — has rewarded physicians who provide abundant ICU services. Additionally, there are non-financial reasons to provide ICU care: it is difficult to predict an ICU patient's chances of survival; ICU patients are often mentally incompetent; and the threat of lawsuit encourages continuation, rather than withdrawal, of care.

OTA predicts that the new payment environment may change hospitals' attitudes about the appropriateness and extent of ICU care. ICU patients are expensive: they often have multiple diagnoses and suffer severe health problems that do not fit neatly into DRG disease "entities." In one study, ICU patients had an average of four

major diagnoses; high-cost nonsurvivors had six diagnoses.

The DRG classification scheme may be poorly suited to describing ICU patients, it says. For example, severity of an illness is not taken into consideration. Gastrointestinal bleeding in patients with cirrhosis is associated with long ICU lengths of stay, yet the DRG for cirrhosis has a mean special care length of only 0.6 days.

Nor does the DRG system take into account those ICU patients with a primary surgical diagnosis who suffer major medical complications. For example, hospitals which treat patients with renal failure are reimbursed based on the operating room procedure, not the ICU care needed to sustain non-functioning kidneys.

The DRG payment system does allow additional payments for 'outlier' cases, which have long lengths of stay or are unusually expensive, it notes. However, the outlier policy pays hospitals less than the marginal costs of caring for the sickest ICU patients.

Because there is no financial penalty for transferring patients to another hospital, the sickest ICU patients may be moved to tertiary care facilities, it predicts. The hospital which keeps a patient only four days get paid 40% of the DRG total payment; on the other hand, a hospital which must keep the patient until he recovers—or dies—is less likely to recoup its full investment.

If the trend continues, tertiary care hospitals may inherit most ICU cases. They may reject them, accept them at a financial loss, or try to minimize expenses by converting separate ICUs into larger, more centralized, and more general ICUs. They may substitute lower-paid health personnel for nurses and physicians when cases require only routine monitoring. Or there may be new efforts to find cost-saving technologies that will replace expensive ICU labor, according to OTA.

Tertiary care hospitals could become, in effect, large ICUs. They may place cost controls on their ICU physicians, paying them salaries as the major form of renumeration. New incentives, like physician bonuses for reduced costs or decreased lengths of stay, could be proposed.

The report suggests several steps to ease ICU decision-making:

★ increase research to pinpoint the predictors of survival in ICU patients with various illnesses,

★ evaluate and perhaps modify the current DRG method of payment for ICU cases,

★ recognize the current conflict between law and medicine: high malpractice standards vs. limited medical resources,

★ better educate physicians about medical ethics and legal obligations,

★ create formalized decision-making committees in hospitals to lessen the burden on physicians faced with difficult choices about ICU treatment.

* * * *

NIH Panel Nixes Surgery For Sarcomas

Following the trends towards less destructive cancer therapies, a panel of physicians convened by the National Institutes of Health has recommended that radiation and chemotherapy can replace amputation as the best treatment of sarcomas.

Multiple studies from major medical centers indicate that amputation can be avoided without jeopardizing the lives of these patients, the experts said at an NIH conference.

Amputation has been the traditional mainstay of treatment of adult soft-tissue and oeteogenic sarcomas because of high recurrence rates when only local surgical resections were performed. Yet removal of the limb impairs a patient's function and erodes his self-confidence, the NIH panel said.

During the past 15-20 years, radiation and chemotherapy have become increasingly effective in treating the 4,800 cases of soft-tissue sarcoma and 1,900 cases of osteosarcomas diagnosed each year. Between 30 and 50 cancer centers around the country now are exploring these alternatives to amputation. Amputation and limb-sparing treatments show similar rates of local recurrence of cancer: 0-10% in cases of soft-tissue sarcoma and 10-20% in osteosarcoma. Five year survival rates for the two different treatments also are similar.

For soft tissue sarcoma, the experts recommend:

★ use of shrinking fields to limit the highest dose of radiation to the area at greatest risk for tumor persistence,

★ saving a 1 cm longitudinal strip of normal tissue along the limb to prevent edema, and

★ delivery of doses of 5,500 to 6,500 cGy over 5½ to 7 weeks.

For osteosarcoma, they suggest:

★ use of either intra-arterial or intravenous

chemotherapy,

- ★ adjuvant treatment to reduce local recurrence, and
- ★ possible use of pre-operative regional chemotherapy to product necrosis in tumors.

There are situations, they point out, when limb-sparing treatment is not appropriate. For example, such treatment should not be used for lesions with little surgical margin or for lesions that involve major vessels and nerves. Limb function, if salvagable, should be at least equal to that of a prosthetic device. For instance, legs should be able to bear weight and hands should be functional.

* * * *

1984 Sees PRO Startups

Over the objections of a leery White House budget office, physicians in 1984 managed to hang on to a pivotal Medicare review role intended to protect the program's coffers as well as its patients.

Government negotiators drove a hard bargain, however, and the new Peer Review Organizations (PROs) that will be performing the reviews have made some formidable commitments that are likely to bring about—or at least hasten—major changes in the way medicine is practiced in the U. S. Few of the winning contractors have any illusions about their future should they fail to live up to their bargains.

The brainchild of Minnesota Republican Senator David Durenberger, the PROs were established in a 1982 law as a replacement of the predecessor Professional Standards Review Organization program. Federal efforts to get the new PROs up and running didn't start in earnest until February 1984 when bid requests for the two-year PRO contracts were finally issued, however.

The PROs will differ from the old PSROs in several important ways. Their workload has been consolidated so that where there were about 200 PSRO areas, there are only 54 PRO areas. Although PSROs were not precluded from reviewing private patients care, the PROs not only are permitted but are required to conduct private reviews when requested. And perhaps most important, the PROs will be working under performance-based contracts that spell out some very specific goals they are to achieve.

The goals, aimed at curbing potential abuses under Medicare's prospective price controls, include several intended to reduce hospital admissions. The PROs also are directed to assure that quality of care does not deteriorate. In fact, federal officials increased their demands in the quality area after complaints that initial bidding guidelines were deficient in this area.

The bulk of the PRO contract awards (44) went to the old PSROs; a number of other new PROs have PSRO subcontractors. Nine state medical societies (Maryland, Indiana, Missouri, Nebraska, New York, North Carolina, Texas, and Virginia) also won PRO bids. In seven areas, review will be conducted by another state's PRO. Only in Idaho will the review be performed by one of the insurers that administer Medicare for the government.

The bidding outcome was a relief to many observers who thought more of the contracts would go to Medicare intermediaries.

Typically, the first round of PRO review will be done by nurses and other non-M.Ds. No claim may be denied for payment without approval of a physician, however, so physicians will be deeply involved in PRO reviews. In most PRO areas, at least 20% of physicians have indicated support for the PRO and many will be working as consultants or reviewers.

As a result, PROs' effect on physicians' practices is likely to greatly exceed that of the old PSROs. While some practitioners may not feel the impact until the first claims and denials start spewing out of the system in about six months, others will be affected immediately. Some M.Ds., for instance, have already received the unwelcome news that either they or the hospitals where they practice have been singled out for special attention from the PRO. Nineteen of the new organizations have identified specific physicians whose hospitalizations will be extensively monitored.

If PROs do all the things they say they will, 595,000 surgeries will be shifted out of hospitals and into ambulatory setting; more than 425,000 admissions in specific hospitals eliminated; and 290,000 unnecessary or inappropriate admissions or procedures eliminated.

THE UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES SLEEP DISORDERS DIAGNOSTIC AND RESEARCH CENTER

The Sleep Disorders Diagnostic Center at the UAMS of Little Rock is dedicated to evaluating patients with chronic sleep disorders and recommending treatment to referring physicians. Sleep

disorders are classified into 4 categories: disorders of initiating and maintaining sleep, (DIMS: insomnia), disorders of excessive somnolence, (DOES), disorders of sleep scheduling and miscellaneous disorders associated with sleep.

Of the 10 causes of DOES, the three most common causes of chronic excessive sleepiness are obstructive sleep apnea, nocturnal myoclonus and narcolepsy. Individuals with obstructive sleep apnea usually snore during sleep. Their bed partner typically notices pauses in breathing, snorting and choking or gasping sounds. If untreated, obstructive sleep apnea may cause excessive sleepiness, high blood pressure, heart and lung disease and potentially life-threatening arrhythmias. Individuals with narcolepsy tend to need several short naps a day which are very refreshing and have brief periods of muscle weakness during laughter, surprise or anger.

Disorders of initiating and maintaining sleep, insomnias, can be caused by a wide range of factors, including environmental factors, stress, medical conditions, and medications. Some patients with obstructive sleep apnea also present with complaints of insomnia, and elderly patients with central sleep apnea, nocturnal myoclonus or other medical conditions often have this symptom.

Disorders of sleep-wake scheduling are more common than generally recognized. Younger individuals with erratic sleep-wake or work schedules often have insomnia complaints that can be associated with their erratic sleep scheduling or poor sleep habits.

There are many medical conditions that can be associated with sleep: some cause arousals and poor sleep quantity and quality, e.g. enuresis, bruxism, esophageal reflux, headaches, while others put the patient at risk of hurting themselves, e.g. sleep walking, sleep seizures. Organic or psychogenic cause of impotency can be determined by our evaluation. This is especially useful when surgical approaches to impotence are contemplated.

Evaluation of sleep disorders requires a sleep history taken by a sleep specialist, and often requires an all-night sleep study (polysomnogram) consisting of simultaneous monitoring and recording of EEG, EOG, various EMG activity, respiration effort, ventilation, arterial oxygen saturation and EKG. The recording is then scored and interpreted for abnormalities in each parameter by the sleep specialist, a clinical polysomnographer (board certified by the Association of Sleep Disorders Centers). The results of the polysomnogram are presented and reviewed by the staff of the Sleep Disorders Center at a weekly case conference. A summary of the results of the polysomnogram, the diagnosis and recommendations are then reported to the referring physician who carries out subsequent management. The Sleep Diagnostic Center remains available for later questions and consultation.

Referrals can be made by calling the medical director: F. Charles Hiller, M.D., Professor of Medicine or the director, Lawrence Scrima, Ph.D. Clinical Polysomnographer at 501-661-5528, or via the UAMS MIST line, 1-800-482-5578.

Our staff is also engaged in research aimed at improving existing forms of treatment, search for cures, development of new techniques to identify high risk populations and to preventing potentially life-threatening or restricting sleep disorders. We have recently received a 3 year grant to study the effects of age, weight, and alcohol on obstructed breathing during sleep.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

ADVANCES IN TREATMENT OF MANAGEMENT OF PEDIATRIC MENINGITIS AND SEPSIS

Presented by Terry Yamauchi, M.D., *April 2, 6:00 p.m.-8:00 p.m.*, Baker Conference Room, Washington Regional Medical Medical Center, Fayetteville. One hour Category I credit. Spon-

sored by UAMS AHEC-NW.

ANNUAL SURGICAL SYMPOSIUM

Course directors, Drs. R. Westerman and Robert Barnes. *April 4 & 6 (Thursday 7:30 a.m.-12 noon and Friday 7:30 a.m.-12 noon. April 4 (Hara Lecture in Little Rock, 4:00 p.m., Ed II), April 5 and 6th* (scientific programs), Arlington Hotel, Hot Springs. Fees: $25 for members of the Arkansas Chapter, American College of Surgeons; $75 for non-members. Six and one-half hours Category I credit. Sponsored by UAMS.

MANAGEMENT OF THE ACUTELY ILL ELDERLY PATIENT

Course director, Dr. David Lipschitz. *April 24, 8:00 a.m.-5:00 p.m.*, Excelsior Hotel, Little Rock. Six hours Category I credit. Fee: $30. Sponsored by UAMS and VA Medical Center (GRECC).

CANCER SEMINAR

Presented by Shirley Riggs, M.D., and F. B. Hagemeister, M.D., with the M. D. Anderson Hospital and Tumor Institute, Houston, Texas, *April 28, 4:00 p.m. to 9:00 p.m.*, Holiday Inn, I-30 and State Line Avenue, Texarkana. Four hours Category I credit. Fee: $35. Sponsored by UAMS-AHEC Southwest.

ADVANCE DIRECTIVES IN MEDICINE: LIVING WILLS AND ORGAN DONATION

Course director, Dr. Chris Hackler. *May 2-4, 8:00 a.m. to 5:00 p.m.*, University Conference Center and the Excelsior Hotel, Little Rock. Thirteen hours Category I credit. Fee: Physicians $125; other health professionals $75.

THE GENERAL PRACTICE OF ANESTHESIOLOGY

Course director, Dr. Richard B. Clark, Department of Anesthesiology, *May 17-18, 8:00 a.m.-5:00 p.m.*, Red Apple Inn, Heber Springs. Five hours Category I credit. Fee: $40.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pathology Conferenee, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.
Colposcopy-Pap Smear Clinie, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gyneeology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferenees, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST

Medieine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conferenee, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
ICU Lecture Series, second Friday, 1:30 p.m., Conference Room.
Peer Exchange, April: "Nephrology"; May: "Infectious Diseases."

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Interesting Case Conference, second Tuesday and fifth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conferenee, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infeetious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.

Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Neurology Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
General Pediatric Seminar, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Surgery Conference, each Monday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Classroom 3, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Gynecology Conference, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Dining Room.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Classroom 1, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S1174K, Laboratory.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Cancer Conference, fourth Thursday, 12:00 noon to 1:00 p.m., Room S1174K, Laboratory.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday at 7:00 a.m. and each Wednesday at 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 p.m., UAMS Shorey Building, Room 8/105.
Interhospital GI Problems Conference, first Monday, 6:00 p.m., St. Vincent Infirmary, Classroom 3, Education Wing.
OB/Gyn Grand Rounds, each Wednesday, 4:00 p.m., UAMS Education Building, Room G/135.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS Ambulatory Care Center Eye Clinic, Room 3/150.
Psychiatry Grand Rounds, each Thursday, 12:00 noon, UAMS Child Study Center Auditorium.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Education Building, Room G/131.
Surgical Science Conference, each Saturday, 8:00 a.m., Education Building, Room G/131.
UAMS/CARTI Tumor Conference, each Wednesday, 12:00 noon, CARTI (St. Vincent Infirmary) Auditorium.
Urology Grand Rounds, two to three times monthly at 5:00 p.m., UAMS or VA. For more information call 661-5240.
Urologic Topics, two to three times monthly at 5:00 p.m., UAMS or VA. For more information call 661-5240.
Urology Morbidity and Mortality Conference, once monthly, 5:00 p.m. at UAMS. For more information call 661-5240.
Uro-radiology Workshop, once monthly, 5:00 p.m. at UAMS. For more information call 661-5240.
VA Medical Service Teaching Conference, each Monday, 3:30 p.m., North Little Rock VAMC, Building 66, Room 38, Medical Service Classroom.

PINE BLUFF — AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME



April 4-6

Trauma and Vascular Surgery. Spring Meeting, Arkansas Chapter, American College of Surgeons. Arlington Hotel, Hot Springs. $25 College members; $75 non-members. For further information, contact Dr. G. Richard Westermann at 804 Wolfe in Little Rock; telephone 664-4289.

April 18-21

109th Annual Session of the Arkansas Medical Society. Arlington Hotel, Hot Springs. For specific details, see Convention Section of this issue of the Journal.

May 2-4

Advance Directives in Medicine: Ethical, Legal and Medical Considerations. University Conference Center.

Living wills, durable powers of attorney, "no code" orders and other methods of directing one's future medical care provide the focus of this conference.

Nationally recognized scholars in medicine, law, and medical ethics will address:

—appropriate uses of advance directives
—roles of physicians, nurses, and attorneys
—economic considerations
—legislative proposals and judicial decisions, and
—liability of physicians and health care institutions

The conference has been designated the spring national meeting of the Society for Health and Human Values and is sponsored by the Division of Medical Humanities and the Office of Continuing Education for Physicians, University of Arkansas for Medical Sciences.

This program meets the criteria for 12 hours in Category I of the Physician's Recognition Award of the American Medical Association and 14 hours of Prescribed Credit by the American Academy of Family Physicians.

Registration fee: $125.00

For more information and registration materials, please contact Continuing Education for Physicians, University of Arkansas for Medical Sciences, 4301 West Markham, Slot 525, Little Rock 72205; telephone 501-661-5261 or (in Arkansas) 1-800-482-5578.

May 29-June 1

American Academy of Clinical Anesthesiologists. Spring Meeting. Hilton Hotel in Destin, Florida. For further information, contact AACA, Post Office Box 11691, Knoxville, Tennessee 37939; telephone 615-588-6279.

June 12-13

Symposium on the Histopathology and Immunology of the Hematopoietic System of the Mouse and Rat. For further information, contact Dr. Charles H. Frith, Director of Pathology, Intox Laboratories, # Intox Drive, Post Office Box 250, Redfield 72132; telephone 397-5207.

June 13-15

Annual Meeting, Arkansas Chapter, American College of Surgeons. Red Apple Inn, Eden Isle.

June 17-21

Medical Technology Assessment for Health Professionals. The Alfred P. Sloan School of Management at the Massachusetts Institute of Technology, Cambridge. For further information, Director of the Summer Session at Massachusetts Institute of Technology, Room E19-356, Cambridge, Massachusetts 02139; telephone 617-253-2101.

September 9-13

Fourth International Conference on Neurotoxicology of Selected Chemicals: Neurotoxicology in the Fetus and Child. Department of Pediatrics, University of Arkansas College of Medicine, Little Rock. For further information, contact Dr. Joan M. Cranmer, Conference Chairman, Department of Pediatrics—#512B, University of Arkansas for Medical Sciences, Little Rock, Arkansas 72201; telephone 661-5997 or 661-5958.

November 5-8

Fall Meeting, American Academy of Clinical Anesthesiologists. Resorts International Hotel, Atlantic City, New Jersey. For further information, contact AACA, Post Office Box 11691, Knoxville, Tennessee 37939; telephone 615-588-6279.



PERSONAL AND NEWS ITEMS

DR. PLANT RELOCATES

Dr. Richard Plant, formerly of Camden, has relocated to Mountain Home. His office address is 503 Hospital Drive.

DR. MELTON CERTIFIED

Dr. C. G. Melton of Blytheville has been certified by the American Board of Obstetrics and Gynecology.

MEDICAL STAFF APPOINTMENTS

Dr. Rex Ross of Conway has been elected chief of staff-elect for the Conway Memorial Hospital; Dr. John C. Dobbs of Conway is secretary. Other appointments as chiefs of service were: Dr. William C. Furlow, Medicine; Dr. Paul L. McChristian, Obstetrics-Gynecology; Dr. Margaret Beasley, Anesthesiology; Dr. James S. Garrison, Jr., Radiology; Dr. Richard Hendrickson, Ophthalmology; Dr. Lander Smith, Emergency; Dr. Gene Singleton, Pathology.

DR. BLAIR SPEAKS

Dr. Trish Blair of Springdale spoke on "Emergency Medicine in 1985" at a meeting of the Northeast Benton County Volunteer Ambulance Service.

DR. McCUTCHEON IN FAYETTEVILLE

Dr. Frank B. McCutcheon, Jr., has joined Dr. James S. Beckman, Jr., for the practice of Plastic and Reconstructive Surgery at 3000 Market, Suite E, in Fayetteville.

DR. GRAY SPEAKS

Dr. David Gray of Jonesboro presented a slide show on "How to Protect Yourself Against Cancer" at a program for the East Arkansas Area Agency on Aging.

DR. KIMSEY PRESIDENT

Dr. Warren Kimsey of Lonoke is the newly-elected president of the Lonoke County Medical Society. Dr. Fred Inman of Carlisle is vice-president and Dr. B. E. Holmes of Lonoke is secretary-treasurer. Dr. Jerry Chapman of Cabot was elected delegate to the State Medical Society.

DR. COHAGAN ELECTED

Dr. Donald L. Cohagan of Bentonville is serving as a member of the Board of Directors of the Bentonville/Bella Vista Chamber of Commerce.

PHYSICIANS COMPLETE TRAINING

Drs. Steven Collier of Augusta and Eugene Joseph and Bill Nevins of Searcy recently completed advanced cardiac life support training.

DR. CARTER SPEAKS

Dr. James Carter of Russellville spoke on "Diabetes, and the Relationship Between Parent and Child" at a recent meeting of the Arkansas River Valley Chapter of the American Diabetes Association.

DR. OSTER LOCATES

Dr. Catherine Oster has opened an office for the practice of medicine in Osceola.

DR. GRAY SPEAKS

Dr. David Gray, Jonesboro oncologist, spoke at the February meeting of the Craighead County Medical Assistants.

DR. PEDEN IN MOUNTAIN HOME

Dr. Robert Peden, an Otolaryngologist, has opened an office at 19 Medical Plaza in Mountain Home.

DR. DORMAN PROGRAM SPEAKER

Dr. Robert A. Dorman of Gurdon presented a program on "Maintaining Good Health" at a meeting of the Clark County Extension Homemakers.

DR. ISLEY LOCATES

Dr. Arthur Isley, a Family Physician, has joined the staff of Mercy Hospital in Waldron.

PHYSICIANS HONORED

Sunday, January 27th, was proclaimed Rural Doctor Day in Crawford County. Drs. Millard Edds of Van Buren, F. E. Shearer of Alma and Robert Calaway of Mulberry received special recognition for their many years of service to the citizens of Crawford County. A reception was held to honor all the doctors practicing in the county.

DR. BLUE SPEAKS

Dr. Leon Blue of Searcy spoke at a meeting of the Searcy Kiwanis Club on the symptoms and causes of heart attacks.

PHYSICIANS ELECTED

Dr. James R. Rasch of Little Rock has been elected to a second term as chief of staff at Baptist Medical Center. Dr. Hal Black, Jr., is vice chief of staff. Section chiefs are Dr. C. E. Phillips, Obstetrics and Gynecology; Dr. B. Richard Johnson, Pathology; Dr. T. Terryl Jefferson, Pediatrics; Dr. Clyde Glover, Radiology; Dr. Tom Smith,

Ear, Eye, Nose and Throat; Dr. Jack Blackshear, Internal Medicine; Dr. Hugh Burnett, Surgery; and Dr. Fay Sloan, Anesthesiology.

DR. CADWALLADER

Dr. Chester S. Cadwallader has joined Neurology Associates, P.A., at 8924 Kanis Road in Little Rock for the practice of Physical Medicine and Rehabilitation.

BAXTER COUNTY OFFICERS

Newly-elected officers of the Baxter County Medical Society are Dr. Ray Stahl, president; Dr. David Roberts, vice-president; Dr. Arthur L. Beard, secretary-treasurer. Dr. Peter MacKercher was elected delegate.

PHYSICIANS INDUCTED

Drs. Richard E. McCarthy and Edward H. Saer, III, of Little Rock were inducted as fellows of the American Academy of Orthopaedic Surgeons at the recent annual meeting held in Las Vegas.

DR. CHAUHAN SPEAKS

Dr. M. A. Chauhan of Newport spoke to the third graders at Gibbs Albright Elementary School on the importance of strong and healthy bones.

DR. BATTLES FILES

Dr. Larry Battles of Russellville has filed as a candidate for a position on the Russellville School Board.

DR. HOVIOUS CERTIFIED

Dr. John Hovious of Blytheville has been notified that he successfully completed the requirement for board certification in Pediatrics.

DR. WEBB CHIEF OF STAFF

Dr. Daniel Webb of West Memphis has been elected chief of staff at Crittenden Memorial Hospital.



NEW MEMBERS

DR. ROBERT K. DRANGE

Dr. Drange has joined the Benton County Medical Society. He was born in Kansas City, Missouri.

He was graduated from the University of Kansas in 1974. Dr. Drange was graduated from the University of Kansas School of Medicine in Kansas City in 1977. His training in Radiology was at Wesley Medical Center in Wichita, Kansas. He is board certified in Radiology.

Dr. Drange was a staff Radiologist at Wesley Medical Center for one year. He served Locum Tenens for one year in Kansas and Arkansas.

Dr. Drange specializes in Diagnostic Radiology. His mailing address is Post Office Box 1671, Rogers, Arkansas 72756.

DR. THOMAS M. HILLIS

Dr. Hillis is a new member of the Miller County Medical Society. He was born in Heber Springs.

His pre-medical education was at Hendrix College in Conway. Dr. Hillis is a 1974 graduate of the University of Arkansas College of Medicine. His internship and residency were with the University Hospital in Little Rock. He is board certified in Surgery and has practiced in Texarkana for five and one-half years.

Dr. Hillis specializes in Surgery. He is associated with Collom and Carney Clinic at 4800 Texas Boulevard in Texarkana.

DR. PATRICK J. SOMERVILLE

Dr. Somerville, another new member of the Miller County Medical Society, was born in Kansas City, Missouri.

He is a 1970 graduate of the Southern Methodist University in Dallas and a 1974 graduate of the University of Texas Southwestern Medical School in Dallas. His internship and residency were with Parkland Memorial Hospital in Dallas. Dr. Somerville is board certified in Urology. He has practiced in Texarkana for four and one-half years.

Dr. Somerville specializes in Urology with Col-

lom and Carney Clinic at 4800 Texas Boulevard in Texarkana.

* * * *

The Pulaski County Medical Society has three new members:

DR. JIMMY L. ENGLISH

Dr. English, a native of Little Rock, was graduated from the University of Arkansas at Little Rock in 1976. He is a 1980 graduate of the University of Arkansas College of Medicine.

Dr. English served his Straight Surgery internship at the University. His residency in Otolaryngology from 1981 to 1984 at the University included six months in Facial Cosmetic Surgery. He is board certified in Otolaryngology.

His office for the practice of Otolaryngology and Facial Cosmetic Surgery is in Suite 300 of the Medical Towers Building in Little Rock.

DR. JOHN S. JONES

Dr. Jones was born in Palestine, Texas. He is a 1976 graduate of the Oklahoma State University and a 1980 graduate of the University of Oklahoma College of Medicine.

Dr. Jones received training in Radiology at the University of Arkansas College of Medicine from 1980 to 1984. He is board certified in Radiology.

Dr. Jones has joined the staff of the Department of Radiology at the University of Arkansas College of Medicine at 4301 West Markham in Little Rock.

DR. GARY R. WHITAKER

Dr. Whitaker, a native of Dunkirk, New York, is a 1964 graduate of the University of Florida in Gainesville. He was graduated from Tulane University School of Medicine in New Orleans, Louisiana, in 1968.

Dr. Whitaker served a Rotating "O" internship with San Joaquin General Hospital in Stockton, California. His General Practice residency was with the United States Walson Army Hospital in Fort Dix, New Jersey, from 1969 to 1971. He also trained in Emergency Medicine at University of Cincinnati Medical Center in Ohio from 1972 to 1974.

He is board certified in Emergency Medicine. Before moving to Arkansas, Dr. Whitaker was on the staff of the Providence Medical Center and the University of Oregon Health Sciences Center in Portland, and the Memorial Mission Hospital Trauma Center in Asheville, North Carolina.

Dr. Whitaker is affiliated with the Division of Emergency Medicine at the University of Arkansas College of Medicine at 4301 West Markham in Little Rock.

DR. DEWEY RALPH McAFEE

Dr. McAfee has joined the White County Medical Society. He was born in Kansas City, Kansas.

He is a 1979 graduate of Oklahoma University. He was graduated in 1983 from the Oklahoma College of Osteopathic Medicine and Surgery in Tulsa. His internship was with the Hillcrest Osteopathic Hospital in Tulsa.

Dr. McAfee specializes in Family Practice and Obstetrics. His office is at 101 Windwood Drive in Beebe.

RESIDENT MEMBERS

The Washington County Medical Society has seven new Resident Members:

DR. JAMES B. COOPER

Dr. Cooper was born in Little Rock. He is a 1979 graduate of the University of Arkansas at Fayetteville and a 1980 graduate of the University of Arkansas College of Medicine. Dr. Cooper is in his second year of Family Practice residency at the Area Health Education Center in Fayetteville.

DR. JAMES T. CRIDER

Dr. Crider is a native of Paragould. He was graduated from Arkansas State University in 1977 and from the University of Arkansas College of Medicine in 1983. Dr. Crider is a second year Family Practice resident at the Area Health Education Center in Fayetteville.

DR. DALTON L. GRAY, II

Dr. Gray was born in Hazen. He is a 1979 graduate of Hendrix College in Conway and a 1984 graduate of the University of Arkansas College of Medicine. Dr. Gray is in his first year of Family Practice residency at the Northwest Arkansas Area Health Education Center in Fayetteville.

DR. HUNTER JUDKINS

Dr. Judkins, a native of Little Rock, was graduated from the University of Arkansas at Fayetteville in 1978. He is a 1982 graduate of the University of Arkansas College of Medicine. Dr. Judkins is Chief Resident at the Northwest Arkansas Area Health Education Center in Fayetteville.

DR. HILTON R. LACY

Dr. Lacy was born in Heber Springs. He is a 1978 graduate of Hendrix College in Conway and a 1983 graduate of the University of Arkansas College of Medicine. Dr. Lacy is in his second year of Family Practice residency at the Area Health Education Center in Fayetteville.

DR. WILLIAM McGOWAN

Dr. McGowan was born in Dayton, Ohio. His pre-medical education was with New College and the University of Arkansas. Dr. McGowan is a 1984 graduate of the University of Arkansas College of Medicine. He is serving his Family Practice residency at the Area Health Education Center in Fayetteville.

DR. FRANKLIN W. WALLER

Dr. Waller, a native of Pine Bluff, is a 1978 graduate of Tulane University in New Orleans. He was graduated from the University of Arkansas College of Medicine in 1982. Dr. Waller is in his second year of Family Practice residency at the Area Health Education Center in Fayetteville.

RESOLUTIONS



DR. PETER R. DORENBURG

WHEREAS, the members of the Pulaski County Medical Society note with sincere sorrow the recent tragic death of one of its esteemed members, Peter O. Dornenburg, M.D., and

WHEREAS, he had been a respected member of this Society and of the medical community since he established his practice here nine years ago; and

WHEREAS, Dr. Dornenburg had attained an enviable reputation for his skill and knowledge in his chosen specialty of orthopaedic surgery.

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted and made a part of the permanent records of the Society; and

THAT, a copy of this resolution be sent to Dr. Dornenburg's family as an expression of our sincere sympathy, and

THAT, a copy be forwarded to the Journal of the Arkansas Medical Society for publication.

ADOPTED: Executive Committee
Pulaski County Medical Society
January 16, 1985

OBITUARY

DR. P. LeMON CLARK, II

Dr. Clark of Fayetteville died January 21, 1985. He was born May 3, 1897, in Chicago, Illinois.

Dr. Clark received his pre-medical education at Cornell University in Ithaca, New York. He taught sociology at Cornell from 1923 to 1929. He was graduated from Rush Medical College at the University of Chicago in 1934.

He practiced in Glencoe and Chicago, Illinois, and Oklahoma City before moving to Fayetteville in 1952. Dr. Clark retired from the practice of medicine in 1976.

Dr. Clark also authored eight books on sex, sex education and marriage. He served as the medical editor of the question and answer department of *Sexology Magazine*.

Dr. Clark is survived by his wife, Esther T. Clark, his son, Dr. P. LeMon Clark, III, another son, and two daughters.

DR. ALBERT R. CLOWNEY

Dr. Clowney of El Dorado died February 10, 1985. He was born September 5, 1918, in Sanderson, Texas.

Dr. Clowney was a 1939 graduate of Hendrix College in Conway and a 1943 graduate of the University of Arkansas College of Medicine. He served in the United States Army Medical Corps during World War II.

He was a member of the American Academy of General Practitioners and had served as a faculty member of Warner Brown School of Medicine.

Dr. Clowney is survived by his son, Charles C. Clowney of DeWitt.

Announcement

NARCOTIC RECORDS INSPECTIONS

The Arkansas Department of Health's Division of Pharmacy Services will investigate the narcotic drug records of practitioners who have purchased excessive amounts of drugs according to the ARCOS reports.

ARCOS is the acronym for *A*utomation of *R*ecords and *C*onsolidated *O*rders *S*ystem. The Drug Enforcement Administration (D.E.A.) uses this management system to monitor the closed distribution system required for certain drugs under the Controlled Substances Act.

The Arkansas Narcotic Drug Act (Act 1937, No. 344) requires practitioners to keep records on the receipt and disposition of all narcotic drugs.

The ARCOS reports identify all Schedule II drugs and the narcotic Schedule III drugs that have been purchased by a practitioner which exceed the statistical mean by more than two standard deviations. The total purchases of any drugs in question are shown for each practitioner.

Purchases of controlled drugs in amounts greater than two standard deviations from the mean are of interest because of the very large quantities involved.

DEA forwards the ARCOS reports to the Division of Pharmacy Services so that their investigators can determine if abuse of the drugs is involved.

The records of dentists, physicians, and veterinarians throughout the state are subject to inspection in order to verify accountability. Copies of the investigators reports are provided to the practitioner's licensing board to ascertain if disciplinary action is warranted.

Opportunities to Practice Medicine in Arkansas

DUMAS. Population 7,000 with a trade area population of 30,000. Seven physicians now in practice in Dumas are aiding in the effort to obtain additional general and family practitioners, an internist, an obstetrician/gynecologist, and a pediatrician. New ultra modern facilities are near the 50 bed hospital. Dumas is 40 miles from Pine Bluff and 80 miles from Little Rock.

BRINKLEY. Population 7,500 with a trade area population of approximately 30,000. Brinkley is located on Interstate 40 halfway between Little Rock and Memphis. Opportunities exist in family practice and internal medicine. Guaranteed income for the first year with professional rates competitive with Little Rock and Memphis. Moving expenses will be paid. Solo, partnership, or group practice is available. The community has a fully equipped hospital with an adjacent 26 bed nursing home.

SEARCY. Population 13,612; service area 40,000. Searcy is located 45 miles north of Little Rock. Searcy has an opportunity available for a pediatrician within a multi-specialty group. The city has two hospitals and a privately owned ambulance service.

BLYTHEVILLE/OSCEOLA. County population approximately 58,000 with a trade area population of approximately 100,000. Opportunities exist in the communities of Blytheville and Osceola for physicians in the fields of family practice, orthopaedics, pulmonary disease, radiology, urology, neurosurgery, plastic surgery, gastroenterology, otorhinolaryngology, and throacic surgery. Incoming physicians are provided with personnel, equipment, exam furniture, office furniture, expenditures, health and professional liability insurance, accounting selections and tax and investment advice. There is no investment and a substantial guaranteed income is provided. The two hospitals have a combined bed capacity of 250 beds.

HEBER SPRINGS. Population 5,000 with a rapidly growing county population of around 18,000. Opportunity exists for a general surgeon and an internist to establish a practice in the area. There is a 54 bed hospital in the town and there are two nursing homes in the area. Heber Springs is 70 miles north of Little Rock, located in the beautiful hills of Northcentral Arkansas on Greers Ferry Lake.

GREERS FERRY. The city of Greers Ferry is currently recruiting a family practice physician. Greers Ferry is located in Cleburne County, population 17,000 and is a vacation paradise known as the "Heart of Greers Ferry Lake." A 1,500 square foot clinic facility is available for lease and includes x-ray, lab, and a minor trauma room. The Greers Ferry Emergency Fund Association has a volunteer ambulance service financed solely by donations and memorials. Services are generally provided to the nearest medical facility at no charge. Area hospitals include a 54 bed acute care facility located 25 miles away in Heber Springs with a full range of medical services, Van Buren County Hospital in Clinton (32 beds, 23 miles away), White River Medical Center in Batesville (106 beds, 40 miles away), and Gray's Hospital in Batesville (51 beds, 40 miles away). The Little Rock area is a mere 78 miles away.

HELENA. Helena-West Helena, with a combined population of approximately 23,000, are located 65 miles south of Memphis, Tennessee, and about 110 miles east of Little Rock. Opportunities exist for general and family practice, general surgery, internal medicine, orthopaedic surgery, nephrology, pulmonary diseases, cardiology, and psychiatry. There are presently approximately 25 physicians in Helena. An expansion completed in 1979 increased the total bed capacity of Helena Hospital to 155. The hospital serves the entire county and additional surrounding areas, totaling above a 60,000 service population. There are two nursing homes with a total bed capacity of about 125.

NASHVILLE. Opportunities exist in Nashville for an ob/gyn, urologist, an orthopaedic surgeon and an ophthalmologist. Trade area 25,000. The new fully equipped Doctors Clinic is located on the hospital grounds with two offices being used and two available for new physicians. Howard County Hospital, a 67 bed facility, provides a surgical suite, a full time scrub team and a CRNA. 30 miles away there is a 75 bed hospital in Hope, and less than one hour's drive a 182 bed facility in Texarkana.

For additional information, contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

WHATEVER

X YOUR POLITICS

VOTE ARK-PAC

A new political party?

Hardly. The Arkansas Medical Society Political Action Committee is a voluntary non-profit, unincorporated group whose membership is open to all physicians, their spouses, and other interested people.

ARK-PAC encourages its members to work actively for good government through the established political party of their choice, but ARK-PAC's material resources may be concentrated for the benefit of worthy candidates from either party, thus reinforcing our efforts toward the basic objective — electing the best possible public representation.

ARK-PAC is your opportunity to join a winning team.

The time is now! Send your dues payment. ARK-PAC achieves bigness by transforming small individual contributions, which might otherwise go unnoticed, into a concerted political force.

Voluntary political contributions for ARK-PAC and the American Medical Political Action Committee may be sent to ARK-PAC, Post Office Box 1208, Fort Smith, Arkansas 72902. Sustaining membership of $99 is suggested; other membership classifications are $65 for Family Membership (physician and spouse) and $40 for a Regular Individual membership.

YOUR ARK-PAC BOARD MEMBERS ARE:

Dr. John M. Hestir (Chairman), Post Office Drawer 512, DeWitt 72042 946-3637
Dr. Charles Rodgers (Treas.), 4202 S. University, Little Rock 72204 526-4838
Dr. John Crenshaw, 4201 Mulberry, Pine Bluff 71603 535-2200
Dr. Robert Miller, 616 Elm, Helena 72342 338-8531
Dr. Ken Lilly, 1120 Lexington, Fort Smith 72901 785-2655
Dr. James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801 968-2124
Dr. A. Samuel Koenig, 923 Lexington, Fort Smith 72901 785-1447
Dr. Milton Deneke, Post Office Box 687, West Memphis 72301 735-1170
Mrs. C. Herbert Taylor, 211 W. Tournament, West Memphis 72301 732-4494
Mrs. C. Lynn Harris, 1516 Wilson Drive, Hope 71801 777-5520
Dr. Roger Cagle, #1 Medical Drive, Paragould 72450 239-8504
Dr. Richard O. Martin, Post Office Box 339, Paragould 72450 239-7194
Dr. Paul D. Meredith, Post Office Box 1409, Texarkana 75504 792-7151
Dr. W. John Giller, Jr., 705 West Faulkner, El Dorado 71730 863-6123
Mrs. Ramon Lopez, 2008 Fairground Drive, Newport 72112 523-8813
Mrs. J. E. McDonald, 1143 West Lakeridge, Fayetteville 72701 521-2769

The Board welcomes your comments from members of ARK-PAC. Please let the Board member in your district know how you want to be represented.

AMPAC is a separate segregated fund established by the American Medical Association. ARK-PAC is a separate segregated fund established by the Arkansas Medical Society. Voluntary political contributions by individuals to PAC should be written on personal checks. Contributions received from corporations will be used solely for political education purposes and not deposited in the separate segregated funds. Contributions are not limited to this suggested amount. Neither AMA nor AMS will favor or disadvantage anyone based upon the amounts of or failure to make PAC contributions. Voluntary political contributions will be used in connection with State and Federal elections and are subject to the prohibitions and limitations of the Federal Election Campaign Act. (Federal regulations require this notice).

ANNUAL MEETING PROGRAM

ARLINGTON HOTEL

April 18-21, 1985 Hot Springs



CONVENTION OFFICIALS

CONVENTION CHAIRMAN: Ronald J. Bracken, M.D., Hot Springs

PROGRAM COMMITTEE:

Richard O. Martin, M.D., Paragould
Ken Lilly, M.D., Fort Smith
J. Larry Lawson, M.D., Paragould
Robert Casali, M.D., Little Rock
James L. Gardner, M.D., Hot Springs
Thomas A. Bruce, M.D., Little Rock
Kelsy Caplinger, M.D., Little Rock
Charles H. Rodgers, M.D., Little Rock
Peter Kohler, M.D., Little Rock

Ex-officio:

Mrs. Cecil Cupp, III, Hot Springs
Mrs. Dan Rowe, Hot Springs
Mrs. Deno Pappas, Hot Springs

SCIENTIFIC EXHIBITS:

Darrell Bonner, M.D., Paragould

SPORTS:

Richard Gardial, M.D., Hot Springs

SPEAKER HOSTS:

Charles H. Rodgers, M.D., Little Rock

MEMORIAL SERVICE:

John Trieschmann, M.D., Hot Springs

PRAYER BREAKFAST:

Walter H. O'Neal, M.D., Chairman,
Committee on Medicine and Religion

SOCIAL:

James L. Gardner, M.D., Hot Springs
Mrs. Deno Pappas, Hot Springs

CONTINUING MEDICAL EDUCATION CREDIT

As an organization accredited for continuing medical education, the Arkansas Medical Society on Scientific Programs certifies that this continuing medical education activity meets the criteria for hour-for-hour credit in Category 1 of the Physician's Recognition Award of the American Medical Association.

This program has been reviewed and is acceptable for 8½ Prescribed hours by the American Academy of Family Physicians.

PROGRAM GRANTS

The Arkansas Medical Society expresses appreciation to the following firms for sponsoring speakers:

Abbott Laboratories
American Physicians Insurance

The Society also expresses appreciation to the following firms for educational grants:

Eli Lilly and Company
Bristol Laboratories
CIBA
Ayerst Laboratories

General Information

REGISTRATION

The Society's convention registration desk will be located on the mezzanine lobby of the Arlington Hotel. The registration hours will be:

Wednesday, April 17	3:00 p.m. - 6:00 p.m.
Thursday, April 18	8:00 a.m. - 4:00 p.m.
Friday, April 19	8:00 a.m. - 4:00 p.m.
Saturday, April 20	8:00 a.m. - 4:00 p.m.
Sunday, April 21	8:00 a.m. - 10:30 a.m.

Registration cards and badges will be prepared in advance for the officers of the Arkansas Medical Society and the county society delegates.

All members and visitors are required to register, as admission to all sessions will be by badge only. There will be a $10 registration fee for non-member physicians.

Advance reservations will be requested by mail for the inaugural dinner-dance on Saturday evening and the Prayer Breakfast on Sunday morning. Please watch your mail for reservation forms.

TELEPHONE SERVICE

The Society will have a direct-line convention telephone at the Arlington Hotel from April 18 to April 21. The number will be 623-6298. Members may leave that number with their office personnel. Members of the Society headquarters staff will take telephone calls during registration hours listed above. The number for the Arlington Hotel switchboard is 623-7771.

BLUE CROSS-BLUE SHIELD RECEPTION

Arkansas Blue Cross-Blue Shield will again sponsor a reception for all members of the Society and their guests. The reception is scheduled for 6:30 p.m. on Thursday evening, April 18, in the Arlington.

HOT SPRINGS CORF OPEN HOUSE

The Hot Springs Comprehensive Outpatient Rehabilitation Facility extends a special invitation to members of the Society and their spouses for an open house from 4:00 p.m. to 6:00 p.m. on Friday, April 19. Hot Springs CORF will be presenting its new facilities and its programs to the medical community of Arkansas. The facility is located at 311 Whittington Avenue, 1½ blocks from the Arlington. Limousine service between the facility and the hotel will be available.

COUNCIL RECEPTION

A reception for all members of the Society and their guests will be held from 7:00 p.m. to 9:00 p.m. on Friday evening, April 19, in the Arlington Hotel. Members are encouraged to attend.

API HOSPITALITY HOUR

American Physicians Insurance (API) will host a hospitality hour for members of the Society and their guests from 7:00 p.m. to 8:00 p.m. on Saturday evening. The hospitality hour immediately precedes the inaugural dinner-dance.

INAUGURAL DINNER DANCE

Dr. John P. Burge of Lake Village will be installed as the new president of the Arkansas Medical Society during a dinner-dance beginning at 8:00 p.m. on Saturday evening in the Arlington. The Betty Fowler Band will provide music for dancing.

The current president, Dr. Charles F. Wilkins, Jr., of Russellville, will be master of ceremonies for the dinner.

FIFTY YEAR CLUB LUNCHEON

The Society will host a luncheon for members of the Fifty Year Club on Friday, April 19, at 12:00 noon in the Arlington Hotel. Dr. C. W. Rasco, Jr., is president of the Club and Dr. Elizabeth Fletcher Dishongh is secretary.

Physicians eligible for membership in the Fifty Year Club this year are:

Dr. Charles W. Anderson, Pine Bluff
Dr. John W. Ashby, Benton
Dr. James W. Branch, Sr., Hope
Dr. Barnett P. Briggs, Little Rock
Dr. James W. Burnett, Texarkana
Dr. Frank M. Burton, Hot Springs
Dr. Ralph E. Crigler, Fort Smith
Dr. Gilbert O. Dean, Little Rock
Dr. T. Henry Dembinski, Hot Springs
Dr. G. A. Edwards, Hot Springs Village
Dr. Ross E. Fowler, Harrison
Dr. Edwin F. Gray, Little Rock
Dr. John E. Greutter, Jr., Little Rock
Dr. N. T. Hollis, Little Rock
Dr. L. F. Hubener, Gainesville, Florida
Dr. Frank C. Maguire, Jr., Augusta
Dr. Kenneth A. Seifert, Hot Springs Village
Dr. Robert Watson, Little Rock
Dr. Lawrence Zell, Tucker

PRAYER BREAKFAST

The Committee on Medicine and Religion will sponsor a Prayer Breakfast on Sunday morning, beginning at 7:30 a.m., for members of the Society and the Auxiliary. The breakfast will be in the Arlington Hotel.

Dr. Walter O'Neal, chairman of the Committee, has announced that Dr. William L. Berry of Dardanelle will give the devotional for the breakfast; invocation will be by Dr. James Pennington of Ola.

Memorial Service

Dr. John Trieschmann of Hot Springs is chairman for the Society-Auxiliary Memorial Service to be held at 11:30 a.m. on Saturday, April 20, in the Arlington.

Members of the Society and Auxiliary who have died during the past year are listed below.

SOCIETY MEMBERS

Warren W. Chamberlain, M.D., Hot Springs
Ewin S. Chappell, M.D., Little Rock
LeMon Clark, M.D., Fayetteville
Albert R. Clowney, M.D., El Dorado
Peter R. Dornenburg, M.D., Little Rock
John B. Elders, M.D., Walnut Ridge
Joseph L. Ellis, M.D., Camden
Carney Fitzgibbon, Jr., M.D., Little Rock
W. O. Green, Jr., M.D., Blytheville
Ulys Jackson, M.D., Harrison
Swan B. Moss, M.D., McGehee
Roary A. Murchison, M.D., Fort Smith
Paul S. Read, M.D., Fairfield Bay
W. J. Schwarz, M.D., Little Rock

AUXILIARY MEMBERS

Mrs. J. K. Donaldson, Fayetteville
Mrs. B. L. Church, Sr., North Little Rock
Mrs. O. L. Bone, Newark
Mrs. C. E. Dungan, Augusta
Mrs. W. L. Shippey, Fort Smith
Mrs. H. King Wade, Sr., Hot Springs
Mrs. Marlin B. Hoge, Fort Smith
Mrs. Joe H. Sanderlin, Little Rock
Mrs. R. H. Whitehead, DeWitt
Mrs. Thomas M. Fletcher, Little Rock
Mrs. Alan G. Cazort, Little Rock
Mrs. A. C. Clark, Little Rock

5K FUN RUN

A 5K Fun Run is scheduled for 6:00 a.m. for members of the Society on Friday, April 19. The Fun Run is sponsored by Pfizer Laboratories. Auxiliary members and others may participate in the Fun Run, but eligibility for the winner trophies will be limited to Society members. All participants will receive T-shirts and medallions. Refreshments will be provided at the end of the run. Advance registration is requested; if you have not already returned the registration form included in the convention flier, please contact the Society headquarters office about registration.

GOLF AND TENNIS

Guests of the Arlington Hotel may use the golf and tennis facilities at Hot Springs Country Club. Charges may be added to the member's room account with the hotel. Members are encouraged to call the Pro Shop (624-2661) or the Tennis Court (624-2153) to arrange times for either golf or tennis.

PRESIDENT'S LUNCHEON

The Society will host a luncheon at 12:00 noon on Friday, April 19, for physicians who have served as president of the Arkansas Medical Society. The luncheon will be held in the Arlington.

Business Sessions

MEETINGS OF THE COUNCIL

The Council of the Arkansas Medical Society will meet daily during the convention at times listed below. All meetings will be held in the Arlington.

Thursday, April 18	7:30 a.m.
Friday, April 19	7:30 a.m.
Saturday, April 20	7:30 a.m.
Sunday, April 21	8:30 a.m.
Sunday, April 21	Immediately following adjournment of the House of Delegates (brief re-organizational meeting and group photograph of new officers)

The voting members of the Council are: the councilors, the president, the first vice president, president-elect, secretary, treasurer, and immediate past president. The speaker, vice speaker, and other past presidents are members ex-officio without vote.

HOUSE OF DELEGATES

The opening session of the House of Delegates of the Arkansas Medical Society will begin at 10:00 a.m. on Thursday, April 18. Speaker of the House Amail Chudy, M.D., will preside, assisted by Vice Speaker Sybil Hart, M.D.

All items of business to be considered by the House must either be printed in the March issue of the Journal or submitted to the headquarters office in writing twenty days prior to the meeting. Any new business proposed during the sessions of the House of Delegates must have a two-thirds vote of attending delegates for introduction.

Items of business will be referred by the Speaker of the House of Delegates to

one of three reference committees. Open hearings on those items of business will be held by the reference committees following the session of the House. All members of the Society are welcome to attend the meetings of the reference committees and to express views on the various reports, resolutions, etc.

AGENDA
FIRST MEETING, HOUSE OF DELEGATES
10:00 a.m., Thursday, April 18
Amail Chudy, M.D., Speaker
Sybil Hart, M.D., Vice Speaker

1. Call to Order
2. Introduction of Guests:
 Mrs. Mylie E. Durham, Secretary, American Medical Association Auxiliary
 Mrs. J. Edward Hall, President, Southern Medical Association Auxiliary
 Mrs. Deno Pappas, President, Arkansas Medical Society Auxiliary
 Mrs. Jerry Blaylock, President-elect, Arkansas Medical Society Auxiliary
3. Address of the President of the Arkansas Medical Society, Charles F. Wilkins, Jr., M.D., Russellville
4. Adoption of minutes of the 108th Annual Session as published in the June 1984 issue of the Journal of the Arkansas Medical Society
5. Adoption of minutes of the session of the House of Delegates during the winter meeting of the Arkansas Medical Society on December 16, 1984
6. New Business
 (1) Reports of Committees
 (A) Report of the Committee on Medical Legislation, James R. Weber, M.D., Chairman
 (B) Report of the Constitutional Revisions Committee, A. S. Koenig, Jr., M.D., Chairman
 (2) Report from the Council, J. Larry Lawson, M.D., Chairman
7. Announcement of vacancies on State Boards
8. Selection of Nominating Committee for Society Officers
 Members of the House will meet by councilor district to select one nominating committee member from each district. The committee elected will select nominations for elections at the 1986 Annual Session.
9. Recess until Sunday

AGENDA
FINAL MEETING, HOUSE OF DELEGATES
10:00 a.m., Sunday, April 21
Amail Chudy, M.D., Speaker
Sybil Hart, M.D., Vice Speaker

1. Call to Order
2. Election
3. Address by James E. Davis, M.D., Speaker of the House of Delegates of the American Medical Association
4. Reports of Reference Committees
5. Supplemental Report of Council covering convention meetings — J. Larry Lawson, M.D., Chairman
6. Old Business
7. New Business
 (1) Nominations for Vacancy on State Medical Board (second district)
8. Adjournment

REFERENCE COMMITTEES

Reference Committees are appointed by the Speaker of the House of Delegates to consider the various reports and resolutions. Reports published in the March issue of the Journal, as well as any reports and resolutions presented at the first meeting of the House on April 18, will be referred by the Speaker to the reference committees. The committees hold open hearings immediately following the House of Delegates session on Thursday. After the open hearing, the reference committees will hold executive sessions for the purpose of preparing recommendations and reports for the House of Delegates. Reports of Reference Committees will be acted upon by the House of Delegates at the Sunday session.

REFERENCE COMMITTEE #1:

Morton Wilson, M.D., Fort Smith, Chairman
John A. Baldridge, M.D., Jonesboro
Kelsy Caplinger, M.D., Little Rock
Paul Anderson, M.D., Fort Smith
Ronald J. Bracken, M.D., Hot Springs
Medical Student Observer: Charles Graham

REFERENCE COMMITTEE #2:

Charles Rodgers, M.D., Little Rock, Chairman
J. Richard Gardial, M.D., Hot Springs
William J. Morton, M.D., Little Rock
A. C. Bradford, M. D., Fort Smith
Frank Morgan, M.D., North Little Rock
Medical Student Observer: James Counce

REFERENCE COMMITTEE #3:

Ralph Joseph, M.D., Walnut Ridge, Chairman
George V. Roberson, M.D., Pine Bluff
David L. Barclay, M.D., Little Rock
Robert R. Sykes, M.D., El Dorado
W. P. Phillips, M.D., Fort Smith
Medical Student Observer: Jerry Dixon

STATE BOARD VACANCY

Arkansas State Medical Board

A vacancy will occur in the second congressional district position on the Arkansas State Medical Board on December 31, 1985. Members from the counties in the district are urged to meet immediately following adjournment of the House of Delegates meeting on Sunday to vote for nominees. Nominations should be reported to Society personnel at the convention registration desk (only one nomination is required).

Hugh R. Edwards, M.D., Searcy, is currently serving the term which will expire in December. He is eligible to succeed himself.

Counties in the second congressional district are: Cleburne, Fulton, Independence, Izard, Jackson, Lawrence, Monroe, Prairie, Randolph, Sharp, Stone, White, and Woodruff.

ARKANSAS MEDICAL SOCIETY POLITICAL ACTION COMMITTEE

The Board of Directors of the Arkansas Medical Society Political Action Committee will meet at 10:30 a.m. on Friday, April 19, in the Arlington Hotel.

ARKANSAS STATE BOARD OF HEALTH

The Arkansas State Board of Health will hold a luncheon meeting on Friday, April 19, in the Arlington Hotel.

ARKANSAS STATE MEDICAL BOARD

The Arkansas State Medical Board will meet at 9:00 a.m. on Friday, April 19, in the Arlington Hotel.

CIVIL DEFENSE COMMITTEE

The Society's Sub-Committee on State Health and Medical Resources for Civil Defense, chaired by Marvin Leibovich, M.D., will meet at 3:00 p.m. on Saturday, April 20, in the Arlington.

MEETING OF NURSING HOME MEDICAL DIRECTORS

A meeting will be held at 2:00 p.m. on Friday, April 19th, to consider organizing medical directors of nursing homes. The meeting will be held in the Arlington Hotel. Physicians interested in further information may contact Art Martin, M.D., 2121 Wolfe Lane, Fort Smith 72901, telephone 782-1237.

Group Specialty Meetings

The **Arkansas Chapter of the American College of Surgeons** will have a luncheon meeting at 12:00 noon on Friday, April 19, in the Arlington Hotel. Robert M. Bomar, Jr., M.D., Assistant Professor of Surgery at Vanderbilt, will be guest speaker.

The **Arkansas Chapter of the American College of Obstetricians and Gynecologists** will have a 12:00 noon luncheon meeting on Friday, April 19, in the Arlington Hotel. There will be a business session during the luncheon.

The **Arkansas Orthopaedic Society** will hold its 1985 spring meeting at the Sheraton Hot Springs Lakeshore Resort. There will be a meeting at 7:00 p.m. on Friday evening, April 19, and a brunch from 9:30 a.m. to 11:00 a.m. on Saturday morning.

The **Department of Otolaryngology** at the University of Arkansas College of Medicine has scheduled a "Problems Conference" for Otolaryngology Residents and Staff from 9:45 a.m. to 11:30 a.m. on Friday, April 19, in the Arlington Hotel. All interested parties invited.

The Department of Otolaryngology has also scheduled "Alumni Day of the University of Arkansas for Medical Sciences Department of Otolaryngology and Maxillofacial Surgery" from 1:00 p.m. to 3:45 p.m. on Friday, April 19, in the Arlington Hotel. Guest speaker will be Dr. Eugene Myers, Professor and Chairman of Otolaryngology at the University of Pittsburgh.

The **Arkansas Society of Otolaryngology — Head and Neck Surgery** will meet from 9:00 a.m. to 12:00 noon on Saturday, April 20, in the Arlington Hotel. Eugene Myers, M.D., will be guest speaker.

The **Arkansas Urologic Society** will have its 1985 spring meeting on Saturday, April 20, in the Arlington. The meeting will begin at 9:00 a.m. and there will be a brunch and program session. Scott McDougal, M.D., of Vanderbilt University will be the Society's guest speaker for the meeting.

The **Arkansas Society of Internal Medicine** will meet at 12:00 noon on Saturday, April 20, in the Arlington Hotel. There will be a business meeting. Program plans are to be announced at a later date.

The **Arkansas Chapter of the American College of Emergency Physicians** will have a luncheon meeting beginning at 12:00 noon on Saturday, April 22, in the Arlington Hotel.

The **Arkansas Chapter of the American College of Radiology** will hold a luncheon meeting beginning at 11:45 a.m. on Saturday, April 20.

The **Arkansas Academy of Family Physicians** will meet at 12:15 p.m. on Saturday, April 20. A scientific program is planned in connection with the luncheon and business meeting. Harmon Holverson, M.D., immediate past president of the American Academy of Family Physicians, will be the Chapter's guest.

The **Arkansas Society of Plastic and Reconstructive Surgeons** will have a luncheon and business meeting at 12:00 noon on Saturday, April 20, in the Arlington Hotel.

The **Arkansas Academy of Ophthalmology** will have a scientific session beginning at 9:00 a.m. on Saturday, April 20, followed by a luncheon meeting. Allen I. Mandell, M.D., Clinical Associate Professor of Ophthalmology at the University of Tennessee, will be the Academy's guest speaker.

The **Arkansas Neurosurgery Section** will have a luncheon and business session on Saturday, April 20, beginning at 12:30 p.m. in the Arlington.

Socioeconomic Seminar

THURSDAY, APRIL 18
2:30 p.m.-5:30 p.m.
"Health Care Issues — 1985"

The seminar program will feature Paul Ellwood, M.D., President of Interstudy of Minneapolis. Interstudy is a health research organization. Dr. Ellwood will discuss changing patterns of practice in the United States and the impact of corporate, for-profit medicine upon the future of the health care delivery system in the next decade.

Other seminar speakers will be representatives of government and the private sector.

This seminar will be of interest to every practicing physician. Make your plans to attend.

Scientific Program

GENERAL SESSIONS
Program Theme: "Health Care Issues — 1985"

Friday, April 19, 1985

Presiding: Morton Wilson, M.D., Fort Smith, Second Vice President

8:30 a.m. Robert L. Bomar, Jr., M.D., Assistant Professor of Surgery, Vanderbilt,

and Assistant Chief, Surgical Service, Nashville VA Hospital
"Total Colectomy — Indications and Results"

9:00 a.m. Eugene N. Myers, M.D., Professor and Chairman of Otolaryngology, University of Pittsburg
"Lesions in the Oral Cavity"

9:30 a.m. F. Patrick Maloney, M.D., Head of the Rehabilitation Medicine Division, University of Arkansas College of Medicine
"The Relevance of Rehabilitation in Primary Care"

10:00 a.m. Break — visit scientific and technical exhibits

10:20 a.m. Alan I. Mandell, M.D., Clinical Associate Professor of Ophthalmology, University of Tennessee
"Diagnosing Glaucoma with the Ophthalmoscope"

10:50 a.m. George M. Ryan, Jr., M.D., Professor of Obstetrics and Gynecology, Division of Ambulatory Surgery, University of Tennessee
"Regionalization of Perinatal Care — A Look Back and A Look Forward"

11:20 a.m. Gail C. Shapiro, M.D., Clinical Professor of Pediatrics, University of Washington School of Medicine
"New Drug Therapy for Asthma"

Saturday, April 20, 1985

Presiding: Ralph Joseph, M.D., Walnut Ridge, Third Vice President

8:30 a.m. Roy Wilson Pickens, Ph.D., Professor of Psychology and Psychiatry, University of Minnesota
"Differential Effects of Benzodiazepines on Human Memory"

9:00 a.m. W. Scott McDougal, M.D., Professor and Chairman of Urology, Vanderbilt
"Current Concepts in the Management of Patients with Stone Disease"

9:30 a.m. Harmon E. Holverson, M.D., Family Practitioner, Emmett, Idaho
"Changing Role of the Family Physician"

10:00 a.m. Break — visit exhibits

10:20 a.m. Robert W. Harrison, M.D., Associate Professor of Medicine, Vanderbilt
"New Concepts in Diagnosis and Treatment of Osteoporosis"

10:50 a.m. D. Kaye Clawson, M.D., Executive Vice Chancellor and Executive Dean, University of Kansas Medical Center
"The Physician in a Changing Society"

The First Annual Shuffield Lecture

Arkansas Medical Society Auxiliary

"THE BEST OF EVERYTHING"

SIXTY-FIRST ANNUAL SESSION
APRIL 18-21, 1985
ARLINGTON HOTEL
HOT SPRINGS, ARKANSAS

Registration Hours: Mezzanine, Arlington Hotel

Thursday 1:00 p.m. to 4:00 p.m.
Friday 8:00 a.m. to 12:00 Noon

Saturday 8:00 a.m. to 10:00 a.m.

Restaurant and Shopping Guide available at Registration Desk.

Thursday, April 18

2:00 p.m. Pre-Convention Board Meeting, Venus Tower Suite, Arlington Hotel. Joint meeting for ALL State officers, State committee chairmen, county presidents and presidents-elect. All NEW Board members for 1985-86 are cordially invited to attend.

3:30 p.m. Exchange Workshop, Venus Tower Suite, Arlington. All 1984 officers and committee chairmen exchange ideas and workbooks with new chairmen and officers.

4:00 p.m. Wine and Cheese Party honoring 1984-85 Board. All officers, committee chairmen and members, county presidents are cordially invited. (Location to be posted at registration desk.)

6:30 p.m. Cocktail Party hosted by Arkansas Blue Cross and Blue Shield, Arlington Hotel

Friday, April 19

8:30 a.m. Continental Breakfast, Venus Tower Suite, Arlington Hotel

9:00 a.m. Opening General Session, Venus Tower Suite, Arlington Hotel
Mrs. Deno Pappas, President, presiding

Invocation: Mrs. John McCollough Smith, Chaplain

Auxiliary Pledge: All Members

I pledge my loyalty and devotion to the Arkansas Medical Society Auxiliary. I will support its activities, protect its reputation, and ever sustain its high ideals.

Welcome: Mrs. Robert Clark, President, Garland County Medical Auxiliary, Hot Springs

Response: Mrs. Herbert Taylor, 1982-83 Past President, West Memphis

Roll Call and Seating of Delegates
Mrs. Sam McGuire, Recording Secretary

Introduction of Guests

Address by: Mrs. Mylie E. Durham, Secretary, American Medical Association Auxiliary

Presentation of Rules of Convention

Convention Announcements: Mrs. Cecil Cupp, III, or Mrs. Dan Rowe, Convention Co-Chairmen

Announcement of the Convention Committees

Reading Committee:
Mrs. Clyde Campbell
Mrs. James Gardner
Mrs. Ramon Lopez

Courtesy Resolution Committee:
Mrs. Gordon Oates, Chairman
Mrs. James Weber
Mrs. Paul Cornell
Mrs. Charles Rodgers

Timekeeper:
Mrs. Harold Langston, Parliamentarian

Reports of officers and committee chairmen
Unfinished Business
New Business
Election of the Nominating Committee
(2 from the Board; 2 from the House)
Election of Delegates and Alternates to AMA Auxiliary Convention, Chicago
Presentation of the 1985-86 Budget: Mrs. Walter Mizell, Finance Chairman
Adjournment

11:30 a.m. Brunch, Ballroom, Arlington Hotel
Invocation: Mrs. Raymond Peeples
Introduction of Guests
Style Show presented by Arlington Gown Shop

Afternoon Activities: Horse Racing at Oaklawn, shopping, baths and massages, facials, etc., at the Arlington Hotel
Mid-America Museum

7:00 p.m. Reception hosted by the Arkansas Medical Society Council, Arlington Hotel

Saturday, April 20

8:00 a.m. Past Presidents' Breakfast

8:00 a.m. Membership Committee Workshop, Venus Tower Suite
All district vice presidents, members-at-large chairman, county presidents, and all county presidents-elect, who will be president during 1985-86
Mrs. Ramon Lopez, presiding
Mrs. Mylie Durham, AMA Auxiliary Secretary, will be present to answer questions and offer suggestions.

9:00 a.m. Continental Breakfast, Venus Tower Suite

9:30 a.m. Second General Session, Venus Tower Suite
Mrs. Deno Pappas, presiding
Invocation: Mrs. John McCollough Smith
Roll Call and Seating of Delegates
Mrs. Sam McGuire, Recording Secretary
Reading of the Minutes of the First General Session
Mrs. Sam McGuire
Convention announcements: Mrs. Cecil Cupp, III, or Mrs. Dan Rowe, Convention Co-Chairmen
Report of Past Presidents' Breakfast
Mrs. John McCollough Smith
Introduction of guests
Address: Mrs. J. Edward Hill, President, Southern Medical Association Auxiliary
Reports of County Presidents
Moderators: District Vice Presidents
Southeast: Mrs. William James
Southwest: Mrs. James Gardner
Northeast: Mrs. Ramon Lopez
Northwest: Mrs. Michael Platt
Registration Committee Report: Mrs. E. K. Clardy

Unfinished Business

New Business

Report of the Nominating Committee

Mrs. Paul Cornell, Chairman
Mrs. William James
Mrs. Raymond Peeples
Mrs. Pat Phillips

Election of Officers

Report of Resolutions Committee: Mrs. Gordon Oates

Adjournment

11:30 a.m. Joint Memorial Service with the Arkansas Medical Society, Arlington Hotel

12:30 p.m. Luncheon, Majestic Hotel, Magnolia Center

Hostesses: Craighead-Poinsett County Medical Society Auxiliary, Mrs. Robert Taylor, President

Invocation: Mrs. W. Payton Kolb

Presentation of Awards:

AMA-ERF: Mrs. Larry Lawson
Doctor's Day: Mrs. Kemal Kutait
Membership: Mrs. Jerry Blaylock

Installation of Officers: Mrs. Kemal Kutait

Presentation of President's Pin and Gavel by Mrs. Pappas to Mrs. Blaylock

Presentation of Past President's Pin
Mrs. Raymond Peeples and Mrs. Carl Parkerson

President's Message: Mrs. Jerry Blaylock

Announcements

Adjournment: Mrs. Blaylock

7:00 p.m. Cocktail Party

8:00 p.m. Inaugural Dinner/Dance, Arlington Hotel

Sunday, April 21

7:30 a.m. Prayer Breakfast, Arlington Hotel
Meeting with Arkansas Medical Society

9:30 a.m. Post-Convention Board Meeting, Venus Tower Suite
All new 1985-86 officers, chairmen, county presidents, and county presidents-elect are expected to attend.
Mrs. Jerry Blaylock, President, presiding

Technical Exhibits

Technical and scientific exhibits will be combined in the Conference Center of the Arlington Hotel. All members are urged to take time to visit the displays of the exhibitors. The exhibits are a part of the educational value of the convention. Exhibitors this year include pharmaceutical firms, medical equipment and supply firms, insurance companies, automated business systems, investment firms, hospitals, medical organizations, and branches of military organizations.

Exhibitors provide financial support for the meeting. However, patronizing the exhibitors is more than reciprocation to those who help you; it is dealing selectively with the

best sources. By exhibiting or otherwise supporting your Society, these companies demonstrate their leadership and reliability as suppliers.

The following firms will be exhibiting at the meeting.

ABBOTT LABORATORIES

You are cordially invited to visit the Abbott exhibit which will feature Tranxene® (clorazepate dipotassium), E.E.S.® (erythromycin ethylsuccinate tablets, USP) and other pharmaceutical products.

SMITH KLINE & FRENCH LABORATORIES

Representatives will be on hand to answer your specific questions and to provide information on our products and services.

A. H. ROBINS COMPANY

You are cordially invited to visit the A. H. Robins exhibit and meet our representatives who will welcome the opportunity to discuss our products; Reglan and Micro-K.

DOBSON INSURANCE GROUP

Come by booth #4 for information regarding Dividend Plan for Worker's Compensation Insurance.

ENCYCLOPAEDIA BRITANNICA-USA

As part of our exhibit, we will have on display the 30-volume EB 3 and other related educational publications.

ARKANSAS ARMY NATIONAL GUARD

Opportunities for physicians in the Arkansas Army National Guard. Flexible program to accommodate your busy schedule. Paid CME, retirement plan and low-cost life insurance are but a few of the benefits available in the Guard.

RATHER BEYER & HARPER

Representatives of Rather, Beyer & Harper will have brochures and all information on the Arkansas Medical Society's group insurance plans. The Income Protection plan, which has been in effect since 1947, is now being issued on a guaranteed renewable basis. Income Protection benefits are now up to $3,000 per month. Records will be available so each physician may review his insurance coverages and what he is eligible to apply for as a member of the Arkansas Medical Society.

WALLACE LABORATORIES

We invite you to visit our booth where the Wallace sales representatives will be pleased to furnish information regarding Wallace products and your related medical questions.

SAFEGUARD BUSINESS SYSTEMS

We will have a display of color-coded File Folders, Hospital Charge System, Pegboard Systems, computers and supplies.

SCHERING LABORATORIES

Come by booth #11 for up-to-date information on Schering products.

BURROUGHS WELLCOME COMPANY

Representatives of Burroughs Wellcome Company cordially invite you to visit Booth #29. Our exhibit will feature the latest product information available from B. W. Co. and provide educational material of interest to all physicians. We will be pleased to answer your inquiries on any products of interest to members and guests.

BRENTWOOD INSTRUMENTS, INC.

Brentwood Instruments offers the largest selection of electrocardiographs available; from small portables to larger models; single or three channel; telephone transmitter/receivers, stress testing systems, and patient monitors.

EASTMAN KODAK COMPANY

Eastman Kodak Company will exhibit the KODAK EKTACHEM DT60 ANALYZER. The first fully discrete, easy-to-use dry chemistry instrument that allows doctors to give patients common lab test results within minutes of taking a blood sample.

AMERICAN PHYSICIANS SERVICE GROUP

American Physicians Services offers complete physician services dealing with Malpractice Insurance; Life and Disability Insurance; Automated Office Systems; Total Practice Management; Staff Leasing; Telemarketing; and Complete Financial Services.

AMERICAN MEDI-LEASE

All information on automobile leasing to members of the Medical Profession. Brochures will be distributed.

STUART PHARMACEUTICALS

Stuart Pharmaceuticals is proud to exhibit its fine line of pharmaceutical products including TENORMIN and our latest addition to the Stuart family of antihypertensives — TENORETIC.

FIRST VARIABLE LIFE INSURANCE COMPANY

Investment Corporation. Retirement Plans Assets. Specializing in tax deferred capital accumulation plans.

AUTOMATED MEDICAL SYSTEMS, INC.

Automated Medical Systems, AMSI software, written by physicians with physicians' needs in mind, features flexibility which allows your office to run the computer — not the other way around. A complete billing and insurance package, total financial reports, patient records, and search functions give mainframe computer ability at microcomputer prices. Written in the MUMPS medical language. Available on IBM and Apple single-terminal and Motorola multi-terminal systems.

CLAY ADAMS

Come by booth #20 for information on CLAY ADAMS products.

SOUTHERN MEDICAL ASSOCIATION

Southern Medical Association will have information available on the advantages of membership, such as Dial Access, Video Access, Regional Postgraduate Conferences, Seminars, the Annual Scientific Assembly, and the SOUTHERN MEDICAL JOURNAL. Also, material will be available on other benefits to members: the IRA, Retirement and Insurance Programs, Universal Life, Research Project Fund, Loans and Scholarships, Hyatt Hotels Corporate Rate, the gold MasterCard, and the Physicians' Purchasing Program.

GLAXO, INC.

You are cordially invited to visit the Glaxo exhibit, where our representatives will be pleased to discuss TRANDATE, VENTOLIN AND ZANTAC.

THE ST. PAUL INSURANCE COMPANY

The St. Paul is the largest writer of medical professional liability in the United States. The booth will feature information on physicians' and surgeons' professional liability. Company representatives will be present for discussion with convention members.

DEAN WITTER REYNOLDS, INC.

We will be displaying literature describing various investment products which are available.

AYERST LABORATORIES

Ayerst Laboratories invites members and guests of the Arkansas Medical Society to visit our exhibit where our representatives will answer your questions concerning Ayerst Products.

NATIONAL MEDICAL RENTALS

National Medical Rentals, Inc., serves the home health care needs of Arkansas, Texas and Tennessee with hospital equipment, oxygen, and breathing-related items for the patient at home.

ARKANSAS WHEELCHAIRS

Arkansas Wheelchairs, Inc., carries a complete selection of wheelchairs, from the power-driven models to the children's chairs, plus many other specialty items for the handicapped individual.

THE BRIDGEWAY HOSPITAL

Exhibit will provide information about specific psychiatric programs that the BridgeWay Hospital offers.

HOME HEALTH CARE OF AMERICA

Home Health Care of America will provide information and literature describing its pharmacy and nursing support for home infusion therapy services.

LINDE HOMECARE MEDICAL SYSTEMS, INC.

On display will be a complete line of home oxygen therapy equipment and DME. Visit booth #32 for informational material and briefing by Linde Representatives.

ADRIA LABORATORIES

Adria Labs invites all health care professionals to stop by the booth at the Arkansas Medical Society convention for a brief visit. Adria will be displaying Kaon-CL 10, Axotal, Myoflex and Modane. Samples and gifts will be available for all guests of the convention.

McNEIL PHARMACEUTICAL

Our representatives will be in booth #35 to discuss products of McNeil Pharmaceutical and answer questions you might have.

PARKE-DAVIS

We invite you to visit the Parke-Davis Booth where our Sales Representatives welcome the opportunity to discuss Parke-Davis products with you and to offer assistance to you. We hope you will join us.

ROLLINS PROTECTIVE SERVICES

As the pioneer in home security, Rollins has helped thousands of homeowners provide reliable, economical protection for their homes and loved ones.

We offer a full range of home security options — from simple wired to advanced wireless systems to match your exact needs.

We also give you affordability few in the industry can match. Prices can start at only $850! Company financing is available. Your Rollins Representative will meet with you in your home. Call Little Rock 501-568-5600 for free, no-obligation security analysis.

ARKANSAS SYSTEMS, INC.

Arkansas Systems, Inc., will be demonstrating the Medical Practice Accounting System. Designed to run on an IBM System/36 or IBM PC, MPAS offers complete accounts receivable management and billing capabilities. The flexibility of system design, reliability of hardware, software ease of operation and reasonable cost coupled with Arkansas Systems support capabilities make MPAS the best choice for clinics or Solo-Practitioners. New to Arkansas, MPAS (which was developed in 1979) has many satisfied users.

MOUNTAIN VALLEY SPRING COMPANY

Mountain Valley served gratis during convention at booth #40.

ST. VINCENT INFIRMARY

Our representatives will have pamphlets, directories, other publications and audio-visual presentations in booth #15.

E. F. HUTTON, INC.

For information on financial services available, come by booth #34.

UNITED STATES AIR FORCE

Opportunities to practice medicine as a member of the United States Air Force. Applications can be taken from Board Certified physicians in certain specialties up to age 57.

ARKANSAS BLUE CROSS AND BLUE SHIELD

Visit the Arkansas Blue Cross and Blue Shield exhibit to discuss any aspect of the voluntary Preferred Payment Plan. You will also have the opportunity to meet the Professional Services representative assigned to your area.

BOEHRINGER INGELHEIM, LTD.

Boehringer Ingelheim will feature the following products: CATAPRES® (brand of clonidine hydrochloride) 0.1 mg., 0.2 mg., and 0.3 mg., COMBIPRES® (clonidine hydrochloride 0.1 mg. or 0.2 mg. and chlorthalidone 15 mg.), PERSANTINE® (brand of dipyridamole), RESP-BID® (brand of theophylline), and ALUPENT® (brand of metaproterenol sulfate) 10 mg. and 20 mg. Tablets, Meter Dose Inhaler, Syrup and Inhalant Solution (new unit dose).

Representatives will be on hand to answer questions about these and any of our other ethical pharmaceuticals.

Scientific Exhibits

J. Darrell Bonner, M.D., of Paragould, Chairman for the Scientific Exhibits, has arranged a number of interesting scientific exhibits. All members are encouraged to visit the exhibits as they are an integral part of the scientific program.

The following exhibits will be on display:

"Noninvasive Evaluation of Peripheral Vascular Disease: Venous and Arterial"
Vascular Labs of Arkansas, Little Rock

"Occult Dysraphism in Children"
Arkansas Children's Hospital and the University of Arkansas for Medical Sciences, Little Rock

"Clinical and Radiographic Evaluation of Cervical Spine Injuries in Children"
Arkansas Children's Hospital and the University of Arkansas for Medical Sciences, Little Rock

"Does the Routine Use of Intraoperative Ultrasound Assist Shunting Procedures?"
Arkansas Children's Hospital and the University of Arkansas for Medical Sciences, Little Rock

"Arkansas High Risk Pregnancy Program"
Department of Obstetrics and Gynecology, University of Arkansas College of Medicine, Little Rock

"Screening Program for Neural Tube Defects"
Arkansas Genetics Program, Little Rock

"Advance Directives in Medicine: Ethical, Legal and Medical Considerations"
Division of Medical Humanities, University of Arkansas College of Medicine, Little Rock

"YAG Lasers for Ophthalmology"
Robert L. Berry, M.D., Little Rock

"Noninvasive Vascular Evaluation 1985"
Department of Surgery, University of Arkansas College of Medicine, Little Rock

"Juvenile Insulin Dependent Diabetic Maintenance Program — Crippled Children's Section"
Arkansas Social Services, Little Rock

"Harvey"
Richard D. Hall Cardiac Learning Foundation, Little Rock

"Doppler Examinations in a Private Office"
Radiology Associates, P.A., Little Rock

"Breast Ultrasound"
Radiology Associates, P.A., Little Rock

"Magnetic Resonance Imaging in a Private Office"
Radiology Associates, P.A., Little Rock

"Liposuction"
Ellery C. Gay, Jr., M.D., Little Rock

"Scoliosis Screening"
Arkansas Medical Society Auxiliary

"Porous Coating Biological Fixation — Total Joints"
Arkansas Orthopedic Associates, Little Rock

"Area Health Education Centers' Statewide Program"
AHEC Central Office, University of Arkansas for Medical Sciences, Little Rock

"American Society for Internal Medicine"
Arkansas Society of Internal Medicine

House of Delegates Business Affairs

Business items printed below are brought to the attention of individual members and the county medical societies. The items reported here represent those received in time for publication in advance of the meeting. All reports will be referred to reference committees. Members are urged to attend the open hearings of the reference committees to express their views. Reference committee hearings are scheduled for 1:00 p.m. on Thursday, April 18.

NEW BUSINESS

Resolution from the Sebastian County Medical Society

WHEREAS, since the inception of the Medicare program in 1965, the Federal Government's costs for health care under this program have risen rapidly; and

WHEREAS, on September 3, 1982, the Tax Equity and Fiscal Responsibility Act was signed into law, requiring the development of prospective payment methodology for Medicare reimbursement to hospitals, skilled nursing facilities, other providers, and physicians, as feasible; and

WHEREAS, in response to this provision, a prospective payment system utilizing the concept of diagnosis related grouping (DRG) was developed and ultimately signed into law; and

WHEREAS, there is widespread concern throughout the country of the increasing costs of medical care in other Government financed programs under the Medicare system, including Veterans Administration services; and

WHEREAS, expenditures for health services for Veterans Administration programs deserve the same concern and treatment as those appropriated for the Medicare program.

BE IT THEREFORE RESOLVED that the DRG program as now applied to the Medicare program be extended to include Veterans Administration programs; and

THAT this resolution be adopted by the membership of the Sebastian County Medical Society and presented to the House of Delegates of the Arkansas Medical Society at the 1985 Annual Session; and

THAT the Arkansas Medical Society adopt a similar resolution for presentation to the House of Delegates of the American Medical Association at its 1985 annual meeting on June 16, 1985.

Nominating Committee
James D. Armstrong, M.D., Chairman

The following is a report of the Nominating Committee. The Nominating Committee of the Arkansas Medical Society met on Sunday, December 16, at 9:00 a.m. at the Camelot Hotel in Little Rock. The following members were present: Drs. James Armstrong, Chairman, Herbert Taylor, Gerald Guyer, George Warren, Warren Douglas, W. P. Phillips, Paul Wallick, Ross Fowler and Ronald Bracken.

The following nominations are presented to the Arkansas Medical Society for the annual meeting in April of 1985:

President-elect: Ken Lilly, M.D., Fort Smith
Joe Verser, M.D., Harrisburg

First Vice President: Milton Deneke, M.D., West Memphis

Second Vice President: Arthur E. Squire, Jr., M.D., Little Rock

Third Vice President: Raymond N. Bowman, M.D., El Dorado

Treasurer: James Kolb, Jr., M.D., Russellville

Secretary: James R. Weber, M.D., Jacksonville

Speaker of the House: Amail Chudy, M.D., North Little Rock

Vice Speaker of the House: Sybil Hart, M.D., Blytheville

Councilors:

District 1: M. J. Osborne, Blytheville
District 2: Jim E. Lytle, M.D., Batesville
District 3: John Hestir, M.D., DeWitt
District 4: Lloyd G. Langston, M.D., Pine Bluff
District 5: George Warren, M.D., Smackover
District 6: F. E. Joyce, M.D., Texarkana
District 7: E. K. Clardy, M.D., Hot Springs
District 8: Ray Jouett, M.D., Little Rock
Charles Logan, M.D., Little Rock
District 9: Richard Pearson, M.D., Rogers
District 10: W. P. Phillips, Fort Smith

Delegate to the AMA: T. E. Townsend, M.D., Pine Bluff

Alternate Delegate to the AMA: W. Payton Kolb, M.D., Little Rock

The Nominating Committee respectively submits this list to the Society for their consideration.

Committee on Medical Legislation
James Weber, M.D., Chairman

As this report is being written, the Arkansas General Assembly is in session. As to be expected, several issues pertaining to the delivery of medical care are being discussed. As of this date, very few bills have been passed and become law. Several expected bills affecting health have not yet been introduced.

The Legislature is currently addressing issues pertaining to abortion, artificial insemination, definition of death, Preferred Provider Organizations (PPO's), indigent care, and others.

Mr. Mike Mitchell, Mr. Ken LaMastus and I are all spending time at the Capitol meeting with committees, as well as meeting at night with various groups, pertaining to issues to be addressed in the Legislature.

I would like to personally thank the members of the Legislative Committee for meeting with us on two occasions and giving us directions on the issues that we knew in advance would be discussed during the session.

Obviously, the session is not over and we are not sure what the outcome on all issues will be. However, our rapport with the Legislators and our ability to discuss issues with them are greatly improved. We think this improvement is due to several factors, such as the establishment of the State Legislative Fund which made contributions to political candidates' campaigns. We are also seeing the results of more physicians contacting their Legislators during the session on issues of interest. I don't think I can over-emphasize the need for this type of activity from the physicians back home.

The State Legislative Fund collection efforts for the past two years have been successful and nearly all the campaign contributions were made by checks being given to physiicans back home who, in return, presented them to their Legislators. Every candidate in the State legislative race who received a recommendation from physicians who contributed to the State Legislative Fund received a contribution to his campaign. This was one of the goals of the Trustees of the Arkansas Medical Society State Legislative Fund. I feel such contributions are extremely important and we should now be looking at next fall's campaign races to start building our fund for contributions for elections next year.

Many thanks to those physicians who contributed a day of their time to come to the Capitol to serve as "Physician of the Day". This is an extremely good public relations tool because the Legislators appreciate having medical services available at the Capitol. The "Physician of the Day" program alows those physicians who volunteer to have a first-hand view of how the Legislature works and gives them a chance to talk to their Legislators at the Capitol.

I personally would like to thank the Fort Smith staff for their support in preparing and mailing the "Alert" so we may keep you informed of the events at the Capitol, and my personal thanks to Mike Mitchell, our legal counsel, and Ken LaMastus and David Wroten for being at the Capitol every day.

Sub-Committee on National Legislation
Asa A. Crow, M.D., Chairman

The members of the Sub-Committee on National Legislation met on December 16, 1984, at the Camelot Hotel in Little Rock. Present were Dr. Asa Crow (Chairman), Dr. Charles Rodgers, Dr. George Warren, Dr. Rhys Willism, Dr. W. P. Phillips, Dr. James Kolb, Jr., and Dr. C. C. Long.

Dr. Warren discussed the possibility of mandatory certified lab technicians and radiology technicians. This is expected to surface again; however, this should be defeated.

Dr. Long discussed the likelihood of a relative value scale that would be adopted for the nation with possible regionalization. After discussion of this, the committee recommended that we propose to the Council of the Arkansas Medical Society that they go on record as being opposed to any regional relative value scale. This motion was made by Dr. Wililams and seconded by Dr. Kolb. Discussion was that this would probably not be beneficial for Arkansas since we would probably be on a lower fixed value. (NOTE: This was not brought up in the Council during the Winter Meeting because of lack of time.)

Dr. Long also stated DRG's will probably be extended to the outpatient areas and that we will see a lot of restrictive-type legislation. He said

that the patient was pretty much shielded and it was the doctor and the hospital who were denied and had very little appeal. There is an appeal process by the patient through the appellate system and Dr. Phillips recommended that the physicians help their patients in this appeal. This would have to be for a case of $100 or more for damage. He stated that Sparks Hospital in Fort Smith was going to wait and get a number of these cases before they presented them to the proper legislative people as an example of what the DRG system is doing. Physicians and hospitals have no appeal to the appellate court. They can appeal once to the PSRO. Appeals should be legitimate before we can be effective in presenting the problems to the Legislators. Dr. Long stated that some entrepreneurs, such as Burlingame and other large industries, are utilizing PSRO's out of state and this makes it more difficult to appeal some of these cases.

Dr. Kolb said in a meeting with Senator Pryor that he learned the American Association of Retired Persons (AARP) felt they had the votes to get 100 percent mandatory assignment and that there would be no deductible and co-pay. Dr. Long stated that entrepreneurs will probably follow the same pattern and adopt the government's fee schedule. Some legislators felt they should try to reduce the physician's salary by 50 percent and felt that $30,000 to $50,000 per year was a decent salary for physicians.

Dr. Long discussed travel expenses and stated that the Budget Committee was to recommend to the Council today that we limit travel due to expenses. He suggested to the National Legislative Committee that we look at responding on a crisis basis where two or three appropriate people who are familiar with the issue go to Washington and try to "put out the brush fires". He commented on the importance of communicating with your Legislators by telephone, letters and personal visits. Dr. Long and others suggested that we may have conference calls when there are significant national legislative issues that we should discuss. He also stated he would try to keep us informed on what is current legislatively. He recommended that we follow the *American Medical News* which gives an update on current legislative issues that are being considered in Washington. Dr. Warren suggested position papers may be helpful and we should paraphrase or highlight those areas with which the Legislators need to be familiar.

Dr. Warren recomended that we look at the definition of our comimttee and to study its functions. Dr. Crow is to consider this at the next meeting and we may possibly develop guidelines, duties and functions of our committee.

Committee on Public Health
Don Howard, M.D., Chairman

The Committee on Public Health met at the Arkansas State Health Department Building on August 11 at 10:00 a.m. The members of the committee present were: Don Howard, M.D. (Chairman) , Wilbur Lawson, M.D., Ben Saltzman, M.D., and Steve Venable, M.D.

The report is as follows:

1. Rural Health Conference—Dr. Ben Saltzman gave an overview on the Rural Health Conference. He felt that this was a conference that involved diverse groups, such as the Extension Service, medical profesisonal people and other groups related in the rural health field.

 He stated that the health needs in the rural communities were deficient and this conference would attempt to upgrade the medical treatment in the rural areas. It was the concensus of the committee to continue to support the Rural Health Conference.
2. Usage of Ultrasound—The committee recommended that the Department of Public Health develop some policy and guidelines on the usage of ultrasound. It is the current thinking that the effect of passing a high energy current through a fetus could possibly cause some chromosomal aberrations and, therefore, cause possible side effects.
3. Lay Midwife Program—The committee recommended the continued support of the Public Health Department in developing criteria certification examinations, and the implementation of the lay midwife program. It also urged the Department of Public Health to keep proper statistics on the lay midwives and their deliveries so that we could develop a history of their performance. Also it was recommended that the lay midwives be required to perform PKU and hypothyroid screens.
4. Home Health Agency—The committee recommended that we support the Public Health Department in the implementation of a home health program. The Public Health Depart-

ment was commended on its current program and implementation of treatment and modalities in the home health field. The committee was informed that some agencies may attempt to establish an intensive home health care service that needs to be monitored.

5. Tuberculosis—Dr. Saltzman stated that the Tuberculosis Control Program of the State of Arkansas has been very efficient. Dr. William Stead has continued to show a tremendous reduction of tuberculosis in the nursing home population. The committee recommended that we continue to support the Public Health Department in the eradication of tuberculosis in nursing homes in an outpatient environment.
6. Immunizations—The Public Health Department has recently stated it cannot release any immunization records to anyone other than the patient or its appointed representative. Physicians are unable to call public health offices and retrieve these records without a release of information. The Public Health Department has adopted a very strong position in that no one will be able to attend school without the recommended immunizations. The only exception will be for medical reasons only.
7. Drug and Chemical Abuse—Dr. Wilbur Lawson gave an overview on a recent American Academy of Pediatrics conference he attended. He stated that lead poisoning is a very common disorder, and he listed a large number of lead sources. Also, he cautioned the usage of Accutane which is used in the treatment of acne and has a strong tetrogenic effect on pregnant women. The usage of narcotics or other agents by the professional population has been very minimal as related by the Public Health Department. The committee recommended that we continue to support agencies in the control of drugs and other chemical substances.
8. Indigent Health Care—Dr. Saltzman, who is a member of the Governor's Task Force on Indigent Health Care, stated that they are in the process of developing guidelines and recommendations to the Governor's office for implementation of treatment of indigent patients in the near future. The main problem is who is to pay for this care.
9. Public Health Clinics—Dr. Saltzman gave an overview of the operations of all the Public Health Clinics. He stated that they are well attended, and they have adequate medical supervision. Public Health Department physicians generally attend these clinics in the absence of a participating physician in the community. The committee recommended the continued support of the public health clinics.
10. Smoking—The committee recommended that all health care professional discourage smoking in the health care areas.

Sub-Committee on Maternal and Child Walfare
Robert H. Fiser, Jr., M.D., Chairman

The Maternal and Child Welfare Committee for the calendar year April 1984 to present reviewed the final draft copy of the indigent care proposal from Governor Clinton's Indigent Care Task Force Committee. This report was shared with each of the committee members and their input directly influenced the report. The report was then brought to the Legislative Committee at the winter meeting.

Support of this legislation will help emphasize primary health care and develop a regionalized system for mothers and children. The regionalized, coordinated support with strong emphasis on private practice was a major focus of this plan.

We also took under advisement the concept of children testifying via video tapes in sexual abuse and neglect cases. It was felt that further study of this approach would be forthcoming.

Committee on Continuing Medical Education
John Hestir, M.D., Chairman

The Committee on Continuing Medical Education has reviewed one organization for reaccreditation this year. St. Vincent Infirmary was reaccredited for another four years. We currently have one organization that has submitted their application for reaccreditation and will be reviewed during February. The Memorial Hospital in North Little Rock is eligible for an additional four years.

The Committee on Continuing Medical Education currently has nine fully accredited organizations in Arkansas. They are the Arkansas Academy of Ophthalmology, Arkansas Children's Hospital, the Arkansas Medical Society Committee on Scientific Affairs, Baptist Medical Center,

Baxter General Hospital, Memorial Hospital, St. Joseph's Regional Medical Center, St. Vincent Infirmary and the Veterans Hospital in Fayetteville. These accredited organizations, along with the University of Arkansas College of Medicine and the Area Health Education Centers, are now able to provide quality educational programs available for the physicians of Arkansas in virtually every area of the State. Making continuing medical education programs available at a reasonable cost and readily available has been one of the Committee's objectives.

My personal thanks to all the physicians who have served on the Continuing Medical Education Committee, as well as those who have served on the site survey teams.

Public Relations Committee
Milton D. Deneke, M.D., Chairman

The Shuffield Award (formerly the Special Layman Award) was presented to Arvil Burks, Ph.D., of Conway at the 1984 Annual Session. Dr. Burks is perhaps best known for his involvement with the school health curriculum project. This was the first year that the award was given as the Shuffield Award in memory of Drs. Joe and Elvin Shuffield.

Seminars were offered in the fall on Marketing, Computers, and Telephone Collections. Two additional seminars, one on "Managing Money and People in Your Practice" and another on "Retirement," were cancelled. Total attendance for this year's seminars was 154.

In response to the voluntary fee freeze, the Public Relations Committee designed a tent sign for physicians to display in their office saying that they were voluntarily freezing their fees for one year. In addition, a survey was conducted to get an idea of how many physicians were participating in the freeze. Of those surveyed, over 91% agreed to the freeze. Also included in the survey was a question concerning decreasing hospital admissions. Information gained from the survey indicated that physicians were playing a large role in this decrease through their attempts to hold down the cost of health care.

During the past year, the Public Relations Committee, in conjunction with the Committee on Aging and the Executive Committee, has been communicating with members of the AARP and working with Mr. Dewey Lantrip of the AARP. The goal of these communications is to create a forum in which a working relationship is established with the AARP to discuss the health care needs of the elderly people and attempt to work out some of the problems that exist with these groups. To this end, the Public Relations Committee is providing Speakers Bureau brochures that will be distributed to all AARP chapters, retired teachers' groups, and other senior citizens' organizations. A health column is being developed for publication in the monthly "Mellow Pages" which is a newspaper published by the Central Arkansas Area Agency on Aging. This is just the beginning of a program we hope will bring about better understanding and address the common concerns between the medical community and the elderly population.

A subcommittee was formed to develop plans to get the Medical Society more involved in media activities. Dr. William Riley, Dr. Forrest Miller and Mr. David Wroten are the members of this subcommittee. Among the recommendations already submitted by this committee is a recommendation to encourage local physicians to become affiliated with radio stations, television stations and the newspapers. Another recommendation is to develop local public relations liaisons or committees to help plan and organize programs and events on the county levels. The subcommittee noted that many physicians presently are involved in providing some service to the media and they should be encouraged to identify themselves as members of the county medical society and State Medical Society whenever possible. The Auxiliary will also take part in this project.

The Committee was responsible this year for designing a name tag to be worn by Auxiliary members during volunteer activities. The Committee is grateful to Mrs. Gwen Pappas and Mrs. Willie Oates for their participation as ex-officio members of the Committee. Their input is much appreciated and will continue to be needed.

Chairman Deneke and Mr. David Wroten attended a communications seminar in Asheville, North Carolina, sponsored by the AMA. The one and a half day seminar presented public service projects and public relations campaigns that have been successful Medical Society projects. The seminar concentrated on the planning and organization that went into these projects.

The Public Relations Committee has been

undergoing an evolutionary process. Much of the past has been devoted to developing communication channels and information networks that will enable us to conduct a successful public relations campaign. Presently, the Committee is examining some of the issues facing health care, such as health care for the elderly, child abuse, teenage pregnancy and many others. In the future, the Committee hopes to address some of these issues in a statewide public relations program utilizing the communication channels being setup, the Speakers Bureau, the Auxiliary, and the leadership from the Medical Society. With this increased activity, the Committee felt it advantageous to develop a set of goals and objectives that could guide the Committee in its work. The following is the Statement of Goals and Objectives adopted by the Committee and presented to the Council for their information:

I. GOALS

1. As prescribed in the Constitution and By-Laws of the Arkansas Medical Society, Article II, Purposes of the Society, paragraph 6:

 "To enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life."*

2. To improve awareness of and participation in organized medicine.

 The public, broadly defined, is any societal group that has either a formal, informal, implied, or expressed relationship to the Arkansas Medical Society. Therefore, the public of the Arkansas Medical Society consists of patients/consumers of health care, the media groups, government and community groups, its membership, and many others. Some of these groups, such as the governmental public, can be addressed in cooperation with other committees of the Arkansas Medical Society. To be most effective, the Committee should concentrate its efforts on the general public, membership of the Arkansas Medical Society, and the Arkansas media groups.

II. OBJECTIVES

1. To establish and promote efficient channels of communication for the speedy and accurate dissemination of health care related information.
2. To educate and inform the public on health care issues and the impact those issues have on their lives.
3. To communicate to the public the services that are available from the Arkansas Medical Society.
4. To promote and provide programs for medical practice enhancement.
5. To establish services and promote activities that foster a sense of identity to, and cooperation with, organized medicine.
6. To provide recognition among members of the public for their contributions to health care.
7. To plan with the public whenever possible health related programs and projects.

 To meet these objectives, the following criteria should be used to direct the efforts of the Committee.

 A. Issues—The Committee should examine the many issues that are facing health care and the medical profession and determine which of those issues has a major impact on its public and which ones can benefit from a Public Relations program.

 B. Needs—The Committee should assess the needs of the public as they relate to the issues being addressed and, when necessary, call on the Society to consider possible action.

By concentrating Public Relations efforts on the major issues facing health care and providing information in a manner that satisfies a particular need of the public, the limited resources available to the Committee will be used most effectively.

Sub-Committee on State Health and Medical Resources for Civil Defense
Marvin Leibovich, M.D., Chairman

The above-named Committee met on September 25, 1984, at Baptist Medical Center in Little Rock, Arkansas. The meeting was called to order by Marvin Leibovich, M.D., Chairman. Attending the meeting were Committee members Charles H. Rodgers, M.D., and Alvin Strauss, M.D. Rep-

*The phrase "state medicine" refers to medicine within the geographic boundaries of Arkansas, rather than any type of state controlled delivery or financing system.

resenting the Arkansas Office of Emergency Services was Mr. Dan Cicerello.

The Committee reviewed the eleven recommendations of the 1983-1984 Sub-Committee on State Health and Medical Resources for Civil Defense. Subsequently, the history of death and suffering caused by Arkansas disasters was reviewed. In 1952, a tornado destroyed the town of Dierks, killing 50 persons and injuring an additional 325. In 1968, 48 Arkansans were killed and an additional 620 were injured in tornadoes which occurred within our State. More recently, we have witnessed multiple casualty incidents which resulted from a tragic school bus accident, from the explosion of a munitions plant, and from the explosion of a Titan II missile silo which was armed with a nuclear warhead. Recognizing that another disaster or mass casualty incident could occur at any time within our State, and recognizing that no disaster plan has yet considered how physician manpower outside of a disaster scene might be mobilized to assist physicians within the disaster area, the Sub-Committee felt that developing such a plan would be our highest priority.

To accomplish this task, it was felt that the concept of developing a statewide system of county physician coordinators who could communicate to this Sub-Committee the need for additional physician resources during a disaster or mass casualty incident would be appropriate. Subsequently, a letter was sent to the president of each county medical society requesting the name of a physician who was involved in the Emergency Medical Services System of that county who might be willing to serve as a county coordinator to this Sub-Committee. Of the 59 county medical society presidents who received this letter, 34 (58%) responded. All 34 physicians whose names were submitted were contacted and virtually all of them have agreed to assist this Committee by serving as their county coordinator. A listing of the names, addresses, home and office telephone numbers of each county coordinator is currently being prepared. This information will then be made available to the members of this Committee, and to the Arkansas Office of Emergency Services.

All county coordinators are scheduled to meet with the members of this Committee on April 21, 1985, at 3:00 p.m. to discuss the principles of disaster planning and preparedness. During this meeting, each county coordinator will have the opportunity to learn what medical resources will be available to his community should a disaster occur.

The Committee wants to thank the county coordinators for their willingness to be of service to both their fellow citizens and to the Arkansas Medical Society. We also want to express our appreciation to Mr. Dan Cicerello of the Arkansas Office of Emergency Services for his support and for the assistance which his agency has given to our Committee. Finally, we wish to express our appreciation to the untiring work of the staff of the Arkansas Medical Society, and especially to Mr. David Wroten, who has made the work of this committee much easier.

Presented as information to the Arkansas Medical Society Journal and as a partial report to the House of Delegates at the Arkansas Medical Society Annual Meeting of April 1985.

Sub-Committee on Liaison with Vocational Rehabilitation
Robert D. Miller, Jr., M.D., Chairman

The Vocational Rehabilitation Committee met on December 16, 1984, at 10:30 a.m.

Dr. Townsend discussed how the Arkansas Medical Society is trying to get changes in the rehabilitation program in the State of Arkansas that will help the workers and also that physicians' roles should be clear cut on who is to see the patient for rehabilitation and Workmen's Compensation. At the present time, several physicians might see one patient. He also brought up the point that we should be more aware of the states that have good laws pertaining to rehabilitation and Workmen's Compensation and we should be aware of these laws.

The Arkansas Medical Society wants to work with the Workmen's Compensation program and this way money will be saved and patients would get back to work sooner. Dr. Madsen discussed the idea of an informal "Think Tank" of M.D.'s within the State of Arkansas for input on rehabilitation and Workmen's Compensation decisions.

Dr. Lopez pointed out that the emphasis should be more on the medical side when dealing with rehabilitation. There are many workers who cannot live on Workmen's Compensation and there are those who can't go back to their original job because of their medical situation. All agreed that

there should be some system to determine the percentage of disability in regards to the type of employment the patient was engaged in and both the physical attitude and the mental attitude must be changed with most workers in order for them to go back to work.

Allyn C. Tatum, a representative of the Worker's Compensation Commission, discussed the status of the Arkansas law regarding vocational rehabilitation in Worker's Compensation cases.

It was suggested that even though the law itself could probably be improved, a great deal of vocational rehabilitation can and does take place in Worker's Compensation cases. However, early intervention is important to the success of any vocational rehabilitation program and anything the medical community can do to speed this process along would be most helpful. Often a physician knows sooner than anyone that an injured worker may not be able to go back to his old job. The sooner the patient and his employer (or the employer's insurance company) know this, the better the chance of a successful program of rehabilitation.

There was also discussion of the importance of physical rehabilitation, and the role it often plays in successful vocational rehabilitation programs.

Plans were made for further communication and cooperation between the Arkansas Worker's Compensation Commission and the members of the Sub-Committee on Liaison with Vocational Rehabilitation.

We hope to have a brief morning meeting sometime during the April meeting of the Arkansas Medical Society in Hot Springs.

Annual Session Committee
Ronald J. Bracken, M.D., Chairman

Dr. Charles F. Wilkins, announced the appointment of Drs. Charles Rodgers, Ronald Bracken, Kelsy Caplinger, Thomas Bruce and Peter Kohler to join previous members (Drs. Richard Martin, Ken Lilly, Larry Lawson, Robert Casali and James Gardner) to the Annual Session Committee. Mrs. Deno Pappas, Auxiliary president, and Mrs. Cecil Cupp and Mrs. Dan Rowe were to represent the Auxiliary. Other sub-committees were chaired by: Memorial Service, Dr. John Trieschmann; Scientific Exhibits, Dr. Darrell Bonner; Sports Function, Dr. Richard Gardial, and Social Activities, Mrs. Gwen Pappas and Dr. James Gardner.

The first meeting was held at the Camelot Hotel in Little Rock on September 15, 1984. The largest initial problem was that the annual meeting in Hot Springs was scheduled for the same weekend as the Arkansas Derby. Commitments of rooms at the Arlington, Majestic and Sheraton were secured. It was generally agreed to have all scientific meetings in the morning, leaving the afternoons free.

The overall schedule was approved as presented elsewhere in this Journal. The socioeconomic theme was approved, and Dr. Charles Rodgers accepted as chairman of the Seminar. Dr. Thomas Bruce accepted chairmanship of the scientific program.

Additional meetings were held on Sunday, October 28, 1984, and Sunday, December 16, 1984, also at the Camelot Hotel, to finalize programs.

The Shuffield Lecture is to be held at 10:50 a.m. on Saturday, April 20, 1985. Dr. Bruce, chairman of the Sub-Committee on Scientific session, and the entire committee recommended to the Executive Committee of the Arkansas Medical Society that Dr. D. Kaye Clawson, Executive Dean of Kansas University, be the featured speaker.

At this time, I would like to thank all those who worked to make this year the most meaningful ever. That includes the entire committee, the appointed sub-committee chairmen, and especially Miss Leah Richmond, who made the task of chairman worry-free and gratifying.

Committee on Aging
Joseph A. Norton, M.D., Chairman

The Committee on Aging of the Arkansas Medical Society, after mail notification to all committee members, met on Sunday, December 16, 1984, at 9:00 a.m. in the Arcade West Room of the Camelot Hotel in Little Rock.

Committee members present included Morton C. Wilson, Thomas L. Eans, Henry V. Kirby, Carlos A. Araoz, Ross E. Fowler, Patricia J. Blair, Joseph Norton, with Dr. Charles F. Wilkins, Jr., President of the Arkansas Medical Society, ex-officio.

Special invited guests included Barbara Gillman, J. V. Highfill, Royce L. Eaves, and Dewey Lantrip, all of Little Rock, representing the American Association of Retired Persons (AARP). There were other physician guests and Mr. David

Wroten of the Arkansas Medical Society office was present.

After welcome, introduction and identification of those present, the initial consideration was given to some ideas presented to the committee by Mr. Lantrip and other AARP leaders. There was lively, informative and interesting discussion of these ideas, especially concerning Medicare. Portions of the newsletter, called the "Mellow Page," published by the Central Arkansas Area Agency on Aging, Inc., December 1984, were displayed, and members of the Committee on Aging asked that future copies of this paper be sent to their offices for information.

The guests were later excused and the committee members continued their work toward formulating, with unanimous approval, the following recommendations, to be presented first to Dr. Wilkins, President of the Arkansas Medical Society, and later, through usual channels, to the House of Delegates of the Arkansas Medical Society.

Recommendations:

I. That the Arkansas Medical Society reaffirm publicly to its members and to the community that no one should be denied medical diagnosis or treatment on the basis of financial hardship.

II. That the Arkansas Medical Society affirm publicly to its members and to the community that the Arkansas Medical Society cannot demand a policy of Medicare participation or non-participation, but would leave that choice to the physician and the patient.

(A) Where the physician has already signed as a participating physician in the current Federal Medicare scheme, the issue is settled and all Medicare assignments are accepted.

(B) Where a physician has chosen not to participate in the current Federal Medicare scheme, choosing instead to selectively accept Medicare assignment, we offer the following as guidelines for this decision:

1. These are suggestions adopted from the Arkansas AARP leadership ideas and refer mainly to economic situations that show the annual total household income of the patient is $12,000 or less, verified by the following methods. It is hoped that the local AARP chapters might help the patients in gathering this information to be presented to the physicians' office where desired.

 a. A copy of State or Federal income tax forms showing total income of $12,000 or less.

 b. A copy of homestead property tax refund application showing total household income of $12,000 or less.

 c. A stub of electric bill showing the patient received the exemption on the State sales tax on the first 500 KWH which is given when the total household income is $12,000 or less.

 d. Evidence of participation in any other State program now in effect or authorized in the next 1985 Legislature with the same $12,000 or less annual income limitation.

 It is assumed that physicians will be aware in situations of long-time association with patients of continuing expensive health problems of patients.

2. The use of the form obtained from the Wisconsin Medical Society entitled Statement of Patient of Income or some similar form. The form is shown after this report.

III. That the Arkansas Medical Society express its gratitude for the advice and counsel of the leadership of the Arkansas AARP in formulating and promoting these policies.

IV. That the Arkansas Medical Society suggest to other committees, particularly the Public Relations Committee, the Legislative Committee, and the Health Cost Containment Committee, that they might seek the advice and counsel of the leadership of the Arkansas AARP.

V. That the Arkansas Medical Society Committee on Aging continue to meet regularly with the leaders of the Arkansas AARP to consider other matters of common concern, such as physician-patient relations, dissemination of health care information to lay and professionals, and consideration of other health cost containment methods.

Medical Bills:

List the amount of any outstanding medical bills and the names of the person/facility owed:

Amount of Bill	Owed To

Insurance Coverage:

List all health insurance policies or plans which provide full or partial coverage to you, including Medicare Part A or Part B:

Other Considerations:

_____ _____

Signature of patient/responsible party Date

FOR OFFICE USE ONLY

Recommended Action: _____

Approved by: _____ Date_____

Comments:

STATEMENT OF PATIENT INCOME

To our patients:

The purpose of this form is to provide basic financial information to _____ _____. This information will assist us in determining the most appropriate method and level of payment for the services you receive here.

NAME: _____
Last First Middle Initial

ADDRESS: _____
Street Apt. # Zip Code

TELEPHONE No.: _____ BIRTHDATE: _____

Telephone number and name of person to contact in case of emergency:

Name Relationship Phone Number

Monthly Income:

Earnings $_____
Spouse's Earnings $_____
Social Security $_____
Spouse's Social Security $_____
Pension $_____
Spouse's Pension $_____
Other $_____

TOTAL MONTHLY INCOME: $_____

(A) TOTAL MONTHLY INCOME × 12: $_____

Yearly Income:

Interest per Year on Savings $_____
Income from Dividends & Interest (stocks, bonds, certificates) $_____
Royalties or Income from Estates & Trust $_____

(B) TOTAL YEARLY INCOME: $_____

**TOTAL ANNUAL INCOME: $_____
(A + B)

Monthly Expenses:

Rent or Mortgage Pymt. $_____
Utilities $_____
Property Taxes $_____
Insurances (car, home, etc.) $_____
Loans (total monthly pymts.) $_____
Other (medications, nursing home care for spouse, etc.) $_____
Other Monthly Expenses (please specify) $_____

Total Monthly Expenses: $_____

**TOTAL ANNUAL EXPENSES: $_____
(= 12 × Total Monthly Expenses)

Committee On Position Papers
James M. Kolb, Jr., M.D., Chairman

The Committee on Position Papers has met three times this year and recommended Position Papers on the following topics: the Arkansas Medical Society and Informed Consent. These papers were developed by the Committee, referred to the Council, and ultimately are approved by the House of Delegates after a Reference Committee hearing during the Annual Session.

The Committee has had good attendance during its meetings and has developed papers on all topics referred to the Committee, as well as those suggested by members of the Committee itself. The Committee has served and continues to serve a useful function in developing short, concise, informative statements pertaining to the Arkansas Medical Society's position on various issues affecting medicine. Because the papers are published in the Journal, they are available to all physician-members, as well as the public. They have been developed in such a manner as to be informative, as well as allowing the voice of Arkansas medicine to be heard on the issues.

I personally thank all the members of the Committee in giving of their time and expertise in the development of these reports.

Cost Effectiveness Committee
Purcell Smith, Jr., M.D., Chairman

The Cost Effectiveness Committee of the Arkansas Medical Society evolved from the Medicine-Business Coalition Committee and the Medicine-Business Liaison Committee. The Medical Society had taken the initiative in contacting representatives of business, approximately two or three years ago, to discuss the various aspects of the health care cost problem. Efforts to establish a coalition were not successful and the committee is under the impression that representatives of business would rather continue on an informal liaison basis rather than have a formal structure such as a coalition. The committee members continue to feel that communication with business representatives is very important regarding the health care cost problem, but possibly it is best done on a local basis rather than to have further efforts on a statewide basis.

The Cost Effectiveness Committee has devoted considerable time to efforts to make itself better informed regarding alternate delivery systems, such as HMO's, PPO's, and IPA's. It is apparent that alternate delivery systems are becoming more prevalent throughout the country, and their presence is just beginning to be felt in Arkansas. The first operative HMO in Arkansas (HealthAmerica) began operation in late 1984. The Cost Effectiveness Committee had a very informative meeting with Dr. Roland Anderson, Medical Director of HealthAmerica.

The committee also met jointly with the Committee on Aging, to visit with representatives of American Association of Retired Persons (AARP) regarding the concerns of the elderly related to health care costs.

It has become clear to the committee that there are many aspects of the health care cost problem—physicians, patients, government, business and insurance companies all contribute to the problem in various ways, and all must accept some of the responsibility. One of the activities being considered by the committee is publication of a pamphlet by the Arkansas Medical Society with suggestions for controlling health care costs. There could be specific suggestions for physicians, for business, and for patients.

The health care cost problem is indeed a complex one, and it behooves physicians to inform themselves as well as possible.

Building Committee
Lloyd G. Langston, M.D., Chairman

The Building Committee was appointed at the direction of the House of Delegates at the spring 1984 annual session. This committee was appointed by the Chairman of the Council and approved by the Council at the June 24 meeting. The committee consists of me as chairman, Dr. Charles Logan and Dr. Joseph Norton.

Activities of this committee to date include the following:

1. Selection of Flake and Company as developer.
2. The architectural firm of Blass, Chilcote, Carter, Lanford and Wilcox was selected as the architectural firm for the project. Mr. William J. Gaskin, A.I.A., is the principal architect.
3. Kinco Construction Company of Little Rock was selected to oversee the construction and build the building.
4. A lot was selected and purchased at 2 Cor-

porate Hill, which is located on Markham Street near Interstate 430.

These actions were all reviewed and approved by the Council.

Present activities involve establishing the financial package to allow construction to begin. This should be presented to the Council at the February 10 meeting and the committee plans to have this package ready to put in force prior to the April House of Delegates meeting. We project construction to begin within sixty days of this report. The present design of the building allows for 30,000 square feet of net space, of which the Society will utilize approximately 30 percent, with the remainder being leased to help finance the building. Details of the financial package and plan will be available to the Society upon completion of the plan.

Medical Services Review Committee
Charles H. Rodgers, M.D., Chairman

The Medical Services Review Committee meets on the fourth Wednesday of each month in the Board Room of Arkansas Blue Cross-Blue Shield in Little Rock. The Committee assists the Medical Director of Blue Cross-Blue Shield in unusual claims processed by Blue Cross-Blue Shield and Medicare. In effect, the Committee serves as a review committee in looking at unusual cases with reference to both their quality of care and fairness of charge for said claims.

The Committee is comprised of representatives from all the major specialties and the Executive Committee of the Arkansas Medical Society. A Committee consisting of Charles H. Rodgers, M.D., John Crenshaw, M.D., and George Roberson, M.D., along with ex officio members, C. C. Long, M.D. and Bob Benafield, M.D., is presently drawing up rules and regulations for the Medical Services Review Committee to act as guidelines in the years to come. In addition, they are recommending the formation of a policy handbook of this committee to serve as a reference for the future.

The Committee acts, in general, as a fiduciary committee and, after carefully reviewing claims, makes a recommendation to Blue Cross-Blue Shield and Medicare's Medical Director for proper judication of each claim. The Committee reviews the claim along with the pertinent medical data and sometimes will request the physicians involved if they would like to appear before the Committee.

Professional Relations Committee
for Second Councilor District
C. W. Jackson, M.D., Chairman

One case has been submitted for investigation for the period of time beginning with April 1984. This case was reviewed with the final decision being that there was no basis for the complaint.

Professional Relations Committee
for Eighth Councilor District
James R. Rasch, M.D., Chairman

Only two problem cases regarding professional relations were relayed to this committee over the past year. Both cases were handled amicably without difficulty.

Professional Relations Committee
for Ninth Councilor District
Charles A. Ledbetter, M.D., Chairman

The Ninth Councilor District Professional Relations Committee responded to one complaint in the period from April 1984. This complaint involved the outpatient treatment of a patient by an area physician. The complaint was reviewed by the committee and found to be without merit. The physician had performed in a manner consistent with acceptable medical practice.

Professional Relations Committee
for Tenth Councilor District
S. E. Landrum, M.D., Chairman

The Tenth Councilor Professional Relations Committee has had only two complaints to review during 1984. Both of these involved some misunderstanding about fees and were apparently rectified to the satisfaction of the patient in both cases. No reprimand of either physician was needed, as the physician had already voluntarily reduced his fee when the misunderstanding arose, and the other problem was due to a computer error in producing duplicate fees.

Fourth Councilor District
Lloyd G. Langston, M.D., Councilor

The Fourth Councilor District will hold a meeting on February 21, 1985, at the Jefferson Regional Medical Center.

To be discussed at that meeting will be political issues of note involving the Legislature and a

presentation of the tentative plans for the building at Little Rock.

Fifth Councilor District
George W. Warren, M.D., Councilor

The Fifth Councilor District Meeting was held at the El Dorado Golf and Country Club on January 16, 1985. There were approximately 50 physicians and wives in attendance, representing Bradley, Columbia, Ouachita and Union counties. Election of officers for 1985 was as follows: Willis Stevens, President; Wayne Elliott, Secretary/Treasurer; and George W. Warren, Councilor.

A report of activities of the Council of the Arkansas Medical Society was presented in written form so that the full program hour could be devoted to Congressman Beryl Anthony, our guest of honor. Congressman Anthony was very frank and stated that it was difficult to be a representative for all people for all purposes. His presentation, while not always being what was pleasing to the ear, was forthright and presented the many sides of the many difficult questions facing the Congress in the coming session. He stressed the urgent need for the physicians to be actively engaged in the political process. He urged those in attendance to keep in touch with his local office, or his Washington office by phone or written communication. Congressman Anthony did state that he had applied for a position on the Health Care Sub-Committee of the House Ways and Means Committee and felt that his chances of being reappointed to this committee, although not a certainty, were good. His prepared presentation will be appended hereunto.

In conclusion, it was noted that Congressman Anthony stressed personal visitation to Washington several times, specifically mentioning the visits one of the councilors had made to his office while representing the American Academy of Family Physicians.

Summary of Congressman Beryl Anthony's remarks to the Fifth Councilor District Arkansas Medical Society meeting on January 16, 1985, with his responses to the questions submitted in advance by some of the physicians:

"As a member of the House Ways and Means Committee, which has jurisdiction of the Medicare program and other health care issues, I am vitally interested in the various legislative and regulatory attempts which have been made to reduce rising health care costs and their effects on the health care industry, quality of care, and the society as a whole.

"Recently I authorized a study of the effects of the latest Medicare reimbursement changes upon the health care industry in the Fourth Congressional District. An analysis of the data gathered in that study illuminates several issues of significance.

1. Some health care facilities, especially those smaller hospitals in remote rural areas with the least patient population to draw upon and those lacking financial resources or management skills to adapt their service delivery systems to economic realities, will fail. This will create a need for some mechanism to be implemented which will permit access to health care for the population in those areas.
2. A more acutely ill and ever-aging population, combined with limited access to hospital services and reduced length-of-stay, demands alternative resources in the community to provide health maintenance and follow-up care. Incentives are needed to stimulate development of those resources.
3. Improved communication on issues of health care and cost containment, among Congress, HHS, the PRO, hospitals, physicians, and the population-at-large, is needed in order to smoothly effect the transition and continue progress towards reduction of health-care costs, as well as to reduce negative effects upon all parties concerned.

"For these reasons it is more important than ever that I have the benefit of your input. I invite you to call, write or visit any of my district offices or the Washington office at any time to share your views on proposed solutions to the difficult problems we must address in the health care area."

Questions submitted in advance and Congressman Anthony's answers:

1. Why did Congress approve transfer of funds from the Medicare Trust Fund into the Social Security trust?

A: Congress permitted interfund borrowing to alleviate a cash flow difficulty with OASDI, which was a short-term arrangement to be paid back into the Medicare Trust Fund with interest over the next several years.

2. What is Medicare-bureaucracy cost as opposed

to operational costs of private medical insurance for the elderly?

A: HCFA (Health Care Financing Administration) administers the Medicare program, with administrative costs totaling 2.26% of total program costs, which is significantly less than administrative costs incurred by private insurers.

3. Who were your medical consultants during your consideration of the recent Medicare legislation? What group, or who in the medical sector, counseled and recommended your support of these measures?

A: In addition to consideration of input from representatives of the 29 million Medicare beneficiaries, Congress also had the benefit of advice and counsel from representatives of the American Medical Association, Arkansas Medical Society, and private physicians (both in individual contacts and through reports and testimony at hearings such as the 1984 Conference on the Future of Medicare) presented to the Sub-Committee on Health of the House Ways and Means Committee.

4. With inflation having been the culprit in medical care (costs), how can you justify your support for a freeze which will create further inflation and jeopardize the increasing federal debt that you now propose to control?

A: While a freeze is not the answer to health care cost increases, we must make the system more efficient and make providers more aware of the effects of the costs of service, which calls for revision of the way Medicare pays for services. The first step taken was the Prospective Payment System in the hospital area. This system has made hospitals more cost sensitive, and cost increases in that area appear to be moderating. This year Congress will be reviewing changes in the payment system for physician services. The Administration will be sending us a study on the feasibility and advisability of including physician payments in the PPS (DRG) system, although this is only one of the options under review.

5. Who did you represent when you supported mandatory Medicare assignment for physicians and reintroduced it to your Ways and Means Committee although the Sub-Committee had voted it down previously?

A: In fact, the amendment was favorably reported by the Sub-Committee to the full Committee for their consideration. It would have required participating hospitals and physicians practicing in those hospitals to accept assignment for services to hospital inpatients. It was my belief that the freeze by itself would result in additional costs being passed on to the elderly. With sacrifices already being made by the elderly through higher copayments and increased deductibles, there is a need to ensure some protection for them. This temporary requirement would have given the elderly the protection they need by preventing any pass-through of additional costs to the elderly for their inpatient care.

6. With predicted resurgence of the inflationary spiral in health care costs due to technological advances, do you have indications whether your constituency will support medical rationing as a solution or further expenditures for more medical advances in treatment?

A: There is as yet disagreement even among "experts" about the future direction of health care costs. Over the next few years, the American people, the medical community and Congress must address the difficult question: are we willing to spend an ever-increasing amount on health care? Choices must be made, although at this point it is too early to tell what options will be considered.

7. Assuming the private insurance industry would be willing to assume the mess that the Government has made of medical indemnification, would the people of the Fourth District support privatization of health insurance for the aged as a means of reducing the inflationary spiral and the increasing control over medical care?

A: I understand that HCFA is considering a number of demonstration projects to test several private market options. Congress will be reviewing these initiatives as they progress. Also, regulations were recently published to implement Health Maintenance Organization (HMO) legislation, thus allowing Medicare beneficiaries to join HMO's and give the HMO the risk of caring for needs of those beneficiaries. However, it is not certain that privatizing the Medicare program would necessarily lower the costs.

8. What evaluation systems have been put in

place to determine the quality of medical care with the radical changes that Congress has made in regard to Medicare legislation?

A: The law enacting the Prospective Payment System requires review by utilization and quality control peer review organizations. If the PRO and HCFA determines that a hospital is engaged in unacceptable practices, Medicare payments may be denied and/or the hospital may be required to take corrective action. Each PRO has established specific screens for its area in regards to admissions, and so forth, with the basic function to ensure that patients are receiving quality care. In Arkansas, of course, the Arkansas Foundation for Medical Care has the PRO contract.

Seventh Councilor District
Ronald J. Bracken, Councilor

With the Annual Session being held in Hot Springs, a letter was mailed to all county societies informing them that this district is to serve as host for the entire State. Each was invited to name volunteers to serve as specific host for guest speakers. etc.

Our availability was made known to each society for a meeting for discussion of the good and/or failures of the Arkansas Medical Society to its members. It is my opinion that we are somewhat a disparate group because of the lack of general face-to-face discussion. Each physician is busy in his/her own right, much less the civic "dues" we each feel obligated and are happy to do. We can only grow through communication and our common bond to serve others. The Annual Session gives each of us a chance to learn and to speak our mind. My own goal is to increase the fellowship of this district; maybe to even include a district meeting.

Eighth Councilor District
W. Ray Jouett, M.D., William N. Jones, M.D., Charles Logan, M.D., Harold Purdy, M.D., Frank Morgan, M.D., Councilors

General membership meetings were held during the year with programs covering the following subjects:

1. A program devoted to the recognition and treatment to impaired physicians.
2. A panel discussion involving the Second District Congressional candidates.
3. A presentation outlining various legislative issues, including the changes in the Statute of Limitations law.
4. Annual Wives' Night Dinner.
5. A program by Charter Med, Inc., explaining the pros and cons of setting up a Society sponsored HMO-type organization.

Formed Senior Physicians of Arkansas, an organization for physicians who are retired or nearing retirement.

Provided three camping scholarships for Med Camps of Arkansas.

Continued to demonstrate and distribute the AMA/GTE Telenet Medical Information Network.

Awarded a medical scholarship to a freshman medical student in honor of Dr. W. Payton Kolb.

REPORT OF THE COUNCIL
J. Larry Lawson, M.D., Chairman

The Executive Committee of the Arkansas Medical Society met on Wednesday, May 23, 1984, at the Little Rock Club in Little Rock and transacted the following business:

1. Authorized the Executive Vice President to invest the Elvin Shuffield Lecture Fund monies in a short to medium length fund so as to earn the highest rate of interest comparable with safety and accessibility.
2. Authorized the headquarters staff to prepare a plaque designating Dr. Elvin Shuffield as a past president of the Society and to arrange for a private presentation of the plaque to the family.
3. Approved a supplemental budget request for the rest of 1984 of $30,000 for equipment for an office in Little Rock and the maintenance of that office, including salaries, etc.
4. Authorized a termination bonus for all employees who continue to work in the Fort Smith office until it is closed. Starting April 1, 1984, the bonus will consist of one month's salary for each year the office is maintained in Fort Smith until it is moved to Little Rock.
5. Voted unanimously to pay Ken LaMastus the fee for moving his personal goods from Fort Smith to Little Rock as submitted by Johnston Transfer and Storage Company of $785.
6. Agreed to pay Mr. LaMastus a sum equal to one month's salary as a necessary expense for

relocating his residence from Fort Smith to Little Rock.

The Council met on Sunday, June 24, 1984, at the Camelot Hotel in Little Rock and transacted the following business:

1. The Council approved actions of the Executive Committee on May 23, 1984, with the exception of Item 4 as recorded in the Executive Committee minutes.
2. The Council voted to suspend the rules to consider the appointment of a Building Committee.
3. The appointments for the Building Committee were announced by the chairman and the Council voted to approve the following appointments to the Building Committee:
 Lloyd Langston, Chairman
 Charles Logan
 Joe Norton
 The Council voted to limit the function of the Building Committee to the selection of a building site and building plans and specified that other problems associated with moving the headquarters staff be considered by the Executive Committee and the Council.
4. Burge moved that the minutes of the Executive Committee actions of May 23rd be reworded to reflect an Executive Committee recommendation that, as an incentive to present employees to continue employment until the date the Fort Smith office is closed, those employees who do remain until the Fort Smith office is closed would receive one month's termination pay for each year of service from April 1, 1984, to closing date, with prorating of time less than a year. The motion was approved by the Council. The Council then voted approval of the action of the Executive Committee (Item 4 of the May 23 minutes) as amended.
5. The executive vice president presented a recommendation to the Council that it accept a proposed two-year lease on 940 square feet of office space in the Plaza West Building for the September 1 opening of the branch office in Little Rock. The lease rate is $10.50 per square foot, which includes parking, utilities, and janitorial services. The Council accepted the proposed lease pending review and approval by legal counsel.
6. The executive vice president discussed the Shuffield Trust Fund to finance an annual Shuffield lecture at the annual meeting of the Arkansas Medical Society. He reported that the fund balance was presently under $10,000 and suggested a Society contribution to the fund. The Council voted to authorize sufficient monies, not to exceed $1,000, to raise the Elvin Shuffield Lecture Fund to the sum of $10,000.
7. The Council voted to contribute $618 to Med Camps to sponsor two children to the 1984 summer camps and to support the pool fund.
8. Mrs. Deno Pappas, president of the Arkansas Medical Society Auxiliary, discussed the MEDVOTE project sponsored by the AMA and AMA Auxiliary—a voter registration drive for physicians and members of physicians' families and an effort to get participation of physicians and their families in the electoral process. The Council voted to name Mrs. James Weber of Jacksonville to chair the MEDVOTE campaign for the State of Arkansas.
9. The executive vice president discussed the current lease on the office space in Fort Smith which extends to January 1, 1986, and the sub-lease to the Arkansas Foundation for Medical Care of 2,500 square feet of space which will be terminated by the Foundation in September 1984. He suggested negotiation with the building owner regarding termination of the Society's lease prior to January 1, 1986. The Council voted to leave the decision on termination of the lease up to the Executive Committee.

The regular business session of the Council was followed by an executive session. Actions taken during the executive session are as follows:

A presentation was made by Michael W. Mitchell, General Counsel, Arkansas Medical Society, pertaining to the investigation as a result of the complaint filed by Paul Schaefer. Possible breach of fiduciary duty and other improprieties were reported and the Council unanimously voted to pursue possible fiduciary duty violations in a Counterclaim.

The Council met on Sunday, August 19, 1984, at the Camelot Hotel in Little Rock and transacted the following business:

1. The Council voted to suspend the rules to hear a report from Legal Counsel on the

incorporation of an organization under the name "Arkansas Medical Society." The Council accepted the recommendation of legal counsel that the matter be investigated by him in whatever manner he feels consistent with the best interest of this Society.

2. The Council approved minutes of the June 24 meeting.
3. Chairman Lawson advised the Council that physicians had been selected for appointment to the Cost Effectiveness Committee as follows:

 Kemal Kutait, Fort Smith
 Roger Cagle, Paragould
 Joseph Stainton, Jonesboro

 The Council approved the appointments by Chairman Lawson.
4. Chairman Lawson congratulated the Society's Assistant Executive Vice President, Ken LaMastus, on attaining certification as a "Certified Association Executive."
5. The Council approved actions of the Executive Committee regarding the Blue Cross-Blue Shield group plan for the membership.
6. Informational reports were presented to the Council on actions authorized at the June meeting:
 (1) Monies in the Shuffield Trust Fund were invested in a United States Treasury note;
 (2) A lease was signed for the space for the Little Rock branch office in the Plaza West Building effective September 1;
 (3) The executive vice president will attempt to lease the 2500 square feet of office space which is covered by the Society's lease and which will be vacated by the Arkansas Foundation for Medical Care on September 30.
7. Purcell Smith reported for the Cost Effectiveness Committee; no action of the Council was requested.
8. T. E. Townsend reported on the June meeting of the House of Delegates of the American Medical Association.
9. Lloyd Langston, chairman of the Building Committee, made a brief report to the Council. He advised that the committee had engaged John Flake and Company. The firm has made analysis and site reviews; the committee will meet to review information on 17 potential sites. When the committee has narrowed the site selections down to 3-5, the members of the Council will be given an opportunity to visit those sites before a decision is made. There was no Council action.
10. Cynthia Weber addressed the Council regarding the MEDVOTE project of the AMA and AMA Auxiliary with the goal of getting all physicians and family members registered to vote in the general election this year.
11. Berry Thompson, orthopaedic surgeon from Little Rock, presented a resolution for consideration of the Council regarding the freeze on physicians' fees and the Blue Cross-Blue Shield usual, customary and reasonable allowance. The Council voted to take no action on the proposal from Dr. Thompson.
12. Chairman Lawson presented the request from the State Insurance Department for a Society representative on a committee being created to review and recommend legislation to regulate alternate delivery systems such as PPO's. The Council voted to participate in the committee, with the representative from the Society appointed by the Council Chairman. The Council requested that the Executive Committee meet on August 22 to review the nomination of the chairman and approve the selection of the Society representative. It was generally agreed that either the Chairman of the Council or the Secretary of the Society should represent the Society at the first meeting of the Insurance Department Committee if the official Society representative cannot be designated by the date of the meeting.
13. The Council considered the request from the Arkansas Pharmacists Association for Society representation on its Therapeutic Review Criteria Committee and four area Drug Utilization Review Committees under its DURbase Arkansas program. The Council voted to direct that the Executive Committee evaluate the request for Society representation; if the Executive Committee feels Society participation is indicated, the Executive Committee is to contact physicians regarding willingness to serve and to make the selections for the five committees.
14. President Wilkins discussed with the Council

the possibility of membership in the State Society without component society membership and recommended that the question be referred to the Constitutional Revision Committee for consideration. The matter was received for information by the Council.

15. Chairman Lawson presented the request from the newly formed medical student group for a charter from the State Society. The Council was advised that the proposed Constitution and Bylaws of the medical student group had not been reviewed for compliance with the State Society Constitution and Bylaws. The Council voted to grant the charter if the Constitution and Bylaws is found to be in compliance with the Constitution and Bylaws of the Society.
16. Chairman Lawson reviewed a recommendation from the American Medical Association that the Society develop a program to encourage physicians to accept Medicare's approved amount as full payment for beneficiaries for whom additional payment would be a hardship and to involve the elderly themselves for discussion of their health care problems and concerns. The Council voted to ask the program committee for the 1985 Annual Session to favorably consider inviting a member of the American Association of Retired Persons to address the Society regarding their problems and concerns about their medical care.
17. Mr. Mitchell reported to the Council that there had been no response to the letter the Council requested be written to the attorney for Mr. Paul Schaefer regarding the Arkansas Medical Society Pension Plan.
18. Mrs. Pappas, president of the Auxiliary, announced that the Society's financial assistance would not be needed for the cookbook project and thanked the Council for its offer.

Following announcements of the seminars being sponsored by the Public Relations Committee and the Arkansas Rural Health Conference, the Council adjourned.

The Executive Committee met by conference call on Tuesday, August 28, 1984, and transacted the following business:

1. Voted to schedule the Winter Meeting on Sunday, December 16th.
2. Voted to have the next Council meeting on Sunday, October 28.
3. Voted to pay the expenses of Milton Deneke, Chairman of the Public Relations Committee, to attend the American Medical Association Communications Seminar, October 1-2, 1984, Asheville, North Carolina.
4. Discussed the Constitution and Bylaws submitted by the medical students. The Executive Committee voted to issue the charter to the medical students and to change one word in the title from "Section" to "Component," and the title would then read "Constitution and Bylaws of the Arkansas Medical Society—Medical Student Component."
5. Approved the appointment by Chairman Lawson of Dr. Morriss Henry to serve on the Arkansas Insurance Department Committee to review and recommend legislation to regulate alternate delivery of health care.

The Executive Committee met by conference call on Monday, October 15, 1984, and transacted the following business:

Voted to recommend that Mr. Michael Mitchell, legal counsel, make the necessary legal filings to transfer the case of Schaefer versus the Arkansas Medical Society from State to Federal Court.

The Council met on Sunday, October 28, 1984, at the Camelot Hotel in Little Rock and transacted the following business:

1. The minutes of the August 19 meeting of the Council were approved as written.
2. The Building Committee requested official approval for Flake and Company to be the developers of the building project. The Council voted approval.
3. Lloyd Langston reported for the Building Committee. He read a list of proposals for consideration of the Council. The proposals were then presented individually for a vote of the Council:

 (1) Approval of the purchase of Lot 2, Corporate Hill Subdivision, Little Rock, Arkansas, for $327,571.
 The Council voted unanimous approval.

 (2) Approval of Blass, Chilcote, Carter, Lanford and Wilcox as the architectural firm to handle the project, with William Gasken as the principal architect, at a fee of 4.5% of the cost of the building shell.
 The Council voted unanimously to

approve the recommendation of the committee.

(3) Approval of Kinco Construction Company as the general contractor for the building project at a fee of approximately 5% of the building construction cost. The Council unanimously voted approval.

(4) Approval of allocation of $250,000 to the building project to be made available immediately and to be dispersed as approved by the Executive Committee of the Society.

The Council voted unanimous approval.

(5) Recommendation that the Building Committee be authorized to review, negotiate, and secure interim financing as needed to cover land purchases, construction and consultation. All proposals will be presented to the Executive Committee for approval. The final financial plan will be presented to the Council for review and approval prior to implementation.

The Council unanimously voted approval.

(6) Recommendation that Mr. Tom Overby be engaged to act as a special consultant concerning tax matters and financial planning for the project, working with the Society's legal counsel, Mr. Mitchell, and the developer, Flake and Company, as needed.

The Council unanimously voted approval.

(7) Dr. Langston requested clarification from the Council on authorization for signing contracts and other documents concerned with the building project after approval by the Council.

The Council directed that all contracts and documents be signed by the president of the Society, attested to by the secretary of the Society, with approval of the chairman of the Building Committee.

4. Warren moved that the chairman's meeting agenda be copied and distributed to members present at Council meetings. The Council so voted.

5. Chairman Lawson reported that physicians had accepted appointment to the DURbase committees of the Arkansas Pharmacists Association as follows:

Therapeutic Review Criteria Committee:
A. D. Hall, Little Rock

Area Drug Utilization Review Committees:
Beuford Durmon, Fort Smith
Leonard Kemp, Paragould
Thomas Pullig, Magnolia
Forrest Miller, Little Rock

The Council approved the appointments as proposed by Chairman Lawson.

6. Chairman Lawson announced that he had selected the following additional physicians for appointment to the Cost Effectiveness Committee:

Robert Fisher, Fort Smith
Clinton Melton, Blytheville
Robert Clark, Hot Springs

The Council approved the appointments.

7. The Council approved actions of the Executive Committee taken during a conference telephone call on August 28, 1984.

8. Milton Deneke, chairman of the Public Relations Committee, reported on activities of his committee. He reminded members of the Council to submit nominations for the Shuffield Award for recognition of outstanding service by a layman. He reported that response to the seminars for physicians and their office personnel had not been as good this year and the committee is considering the possibility of not scheduling seminars for 1985.

9. The Council approved appointment of John Crenshaw of Pine Bluff as vice chairman of the Medical Services Review Committee.

10. The Council approved a proposal that a committee be appointed from the Medical Services Review Committee to prepare operating guidelines for the review committee.

11. Joe Verser, secretary of State Medical Board, reviewed for the Council proposed revisions in fees for licensure by the Board. There was no Council action.

12. Ralph Joseph of Walnut Ridge was elected to fill the vacancy in the office of the third vice-president of the Society.

The Council voted to consider the remainder of the agenda in Executive Session with the Society

legal counsel in attendance. Minutes of the Executive Session were recorded separately. They are as follows:

Our legal counsel, Mr. Mitchell, gave a report on the status of Mr. Gibson's filing for incorporation of "Arkansas Medical Society." Mr. Mitchell reported that he and others representing the Arkansas Medical Society had met again with the judge. Now the judge has given Mr. Gibson thirty days to find a new name or their charter will be revoked. Mr. Mitchell feels that the matter is over.

Mr. Mitchell also gave a report on our lawsuit by Mr. Schaefer. Mr. Mitchell reported that there were several questionable elements pertaining to Mr. Schaefer's employment by the Medical Society and by the Arkansas Foundation for Medical Care. Specifically, his retirement plan. It is questionable if Mr. Schaefer carried out his duties correctly. He may have not made a clear disclosure on the plan. Mr. Owens was never present at a Council meeting for explanation and disclosure. Mr. Owens had stated that he thinks he was specifically excluded from these explanation and disclosure meetings.

The fringe benefits in Mr. Schaefer's contracts were included on the retirement plan. Also, the Foundation's compensation to the Medical Society was included in determining the retirement income. Also, the retirement plan from the Foundation included this income. This may not have been correct action taken by Mr. Schaefer in setting up his plan.

Mr. Mitchell asked for direction and guidance by the Council as to what specifically to do. Motion by George Warren, seconded by Paul Wallick, that Mr. Mitchell address these questions and file an answer and counterclaim based on the breach of fiduciary duty possibly amounting to fraud. Motion passed.

The Budget Committee Chairman, John Hestir, gave the budget report. There was much discussion, along with much expression of displeasure, with this budget report. Several possible solutions were proposed, none of which were in the form of a motion. However, there was a strong feeling expressed that since doctors could not raise their fees it was felt to be quite unfair that the employees should get very much of a raise. Motion by Crow, seconded by Wallick, that the following action by the Council be taken in regard to this budget report.

1. The clerical employees at Fort Smith receive no increase in salary for the coming year. (This notification to the employees should include an explanation as outlined above.)
2. That Mr. LaMastus and Wroten receive a 10% increase in their salaries.
3. That Dr. Long's salary be established at $65,000.

There was a substitute motion then introduced by Jim Kolb, seconded by Jim Lytle, that the above motion be retained in its entirety except that Dr. Long's salary be established at $80,000 per year. The substitute motion failed. The original motion passed. Motion by Dr. Logan, seconded by Dr. Purdy, that Leah Richmond's salary remain the same. Motion passed. There was further discussion on the budget report pertaining to other items. Motion by Lilly, seconded by Clardy, to accept the remainder of the budget report as is written except that portion where it is recommended that the dues be raised. This portion will be tabled until the next Council meeting. Motion passed.

The Executive Committee met by conference call on November 5, 1984, and transacted the following business:

1. Voted to accept the proposal that the Society's funds consisting of United States Treasury notes in the amount of $500,000 be pledged as collateral to borrow $350,000 from the First National Bank of Fort Smith with interest rate of prime plus ½ percent. This money is to be borrowed for a period not to exceed six months until permanent financing for the building project can be arranged.

 The Executive Committee voted to authorize the Executive Vice President, C. C. Long, to pledge the security and to sign for the loan. This is authorized following the direction of the Council that all contracts and documents be signed by the President of the Society, attested to by the Secretary of the Society, with approval of the Chairman of the Building Committee.

The Executive Committee met with members of the Budget Committee and the Building Committee on Wednesday, November 28, 1984, in the Blue Cross-Blue Shield Building, Little Rock.

The members heard a presentation from Mr. Tom Overbey, the tax attorney, to the possible ways of financing the proposed headquarters building and, also, from Mr. Flake and Mr. Tucker of Flake and Company, the developers. The committee, as a whole, authorized the payment for services to Mr. Overbey and also to the architectural firm of Blass, Chilcote, Carter, Lanford and Wilcox for preliminary work when billed.

The Council met on Sunday, December 16, 1984, at the Camelot Hotel in Little Rock and transacted the following business:

1. The Council voted approval of the appointment of Frank Morgan to the Budget Committee and the designation of Jim Lytle as chairman of the Budget Committee.
2. Approved Society position papers on (1) Arkansas Medical Society, and (2) Informed Consent as presented by the Position Papers Committee with recommendation for approval. These position papers are an addendum to the Council minutes.
3. Milton Deneke, chairman of the Public Relations Committee, presented a statement of goals and objectives of the PR Committee for the information of the Council.
4. The Council approved the appointment of Robert H. May of Russellville to succeed Peter Dornenburg as the Orthopaedic representative on the Medical Services Review Committee.
5. Thomas Bruce, dean of the University of Arkansas College of Medicine, discussed a proposal by the Joint Budget Committee of the Arkansas Legislature that the enrollment for medical school classes be increased. The report was received for information of the Council.

The Council convened in Executive Session for the remainder of the agenda. Minutes of the Executive Session are as follows:

1. Minutes of the October 28 Executive Session meeting of the Council were approved.
2. The minutes and recommendations of the Executive Committee were approved.
3. John Hestir, Chairman of the Budget Committee, made a supplemental report to the Council regarding the 1985 operating budget for the Society. Basically, Dr. Hestir reported that the estimated expenses for the year 1985 would exceed the anticipated income by approximately $113,000. He also reported that the reserves of $600,000 at the beginning of 1985 would be depleted to approximately $160,989 by the beginning of 1986 because of the purchase of $327,000 worth of land in Little Rock for the Society headquarters, plus the $113,000 operating deficit for the year 1985. Dr. Hestir also stated that the estimated income for 1986 was $476,650 and the estimated expenses for 1986 would be $870,211 creating a potential $400,000 operating deficit for the year 1986.

Dr. Hestir emphasized that there had not been a dues increase in the Society for eight years, primarily because of interest income from the reserves, plus rental income and part of the executive salary from the Foundation for Medical Care. He emphasized that these sources of income were no longer available and that basically the only income to the Society was from dues. He states that for several years now the Society has had to use income from reserves to make up for the operating budget deficit.

The Budget Committee made the following recommendations to the Council:

A. Rather than cash treasury bills bearing 14 percent interest at this time to pay the loan for the $327,000 for the land purchase for the new headquarters building, the Budget Committee recommended that the Council authorize the utilization of current income to be applied toward retirement of the loan against the land.
This motion passed.

B. The Budget Committee recommended that all dues-paying members of the Society be given a one-time assessment of $100 to be dedicated toward payment of the land for the new Society headquarters building. He stated that this land has already been purchased by a loan secured by our reserves for approximately $327,000. He stated that we had initially budgeted to spend $250,000 for land and that this purchase, which has been authorized and accomplished, put us at least $77,000 over our estimated costs for the land. He stated that for this reason and because of the steady depletion of reserves, the Budget Commit-

tee felt that a one-time $100 assessment was the best answer for this problem. Initially, Dr. Hestir made this motion on behalf of the Budget Committee and it was seconded by Dr. Lilly. A very lengthy discussion then followed, after which the motion was reaffirmed and the question called by Charles Logan and further seconded by Dr. Burge. Then a vote was taken, the results of which were 15 for and 2 opposed, and the motion carried.

C. The Budget Committee asked the Council to give the Executive Committee authority to make appropriate reductions in the allocation of travel funds allotted in the budget. It was stated that travel expenses had grown rapidly and had become a very major item in the budget and it was felt that the Society could economize during these times by making a reduction in the amount of money spent on travel.
The motion passed.

The Budget Committee reported that future requests of the Council for activities requiring expenditures should be referred to the Budget Committee in all cases for an opinion as to whether or not the Society actually has the money available for the request. It was agreed that the Council has authorized increasing expenditures and that expenditures over income were beginning to create serious deficits.

4. Members of the Council were provided with a copy of the "amended answer and counterclaim" in the suit of Paul Schaefer pertaining to the Medical Society Pension Plan. The Society's attorney, Mr. Mike Mitchell, reported to the Council on the status of this lawsuit. President Wilkins reminded the Council that if this lawsuit were lost, the Society could be placed in a serious financial position.

5. Lloyd Langston, Chairman of the Building Committee, reported to the Council on the activities of his committee. He stated that a three story, 30,000 square foot building is being designed, in which the Society headquarters would occupy approximately 7,000 square feet. He stated that the 2.35 acres of land had cost approximately $327,000 and that this land had already been purchased and the deed was in the Society safe. He stated that the total cost of the building would be approximately $2,122,429. Dr. Langston asked Mr. Rett Tucker of Flake and Company to present the development budget for the project and also Mr. Tucker presented proforma operating statement (a forecast for the first year's operation in the building).

Mr. Tom Overbey, attorney, then presented the plan developed for financing the building through approximately thirty-five investors, hopefully members of the Medical Society, and provided a summary of cash flows for this investment over a period of eighteen years.
Dr. Langston asked the Council to authorize Flake and Company to pursue prospective tenants for the 27,251 square feet that will be rental space. This was authorized by a vote of the Council.

6. The Chairman of the Budget Committee reported to the Council that in addition to the $100 assessment to be made immediately from the membership to go for the land purchase, a dues raise would be necessary and should be presented to the House of Delegates at the annual meeting in April. The Budget Committee recommended a $100 per year dues increase for each member. It was decided to discuss the dues increase at a later Council meeting before the annual meeting in April and no action was taken on this recommendation today.

ADDENDUM TO THE COUNCIL MINUTES

Position Paper on Arkansas Medical Society

The Arkansas Medical Society is a professional association founded in 1875 by 225 physicians. Membership now is open to all Arkansas doctors of medicine, doctors of osteopathy, physicians in training, and medical students. In 1984, the Society has over 2,100 licensed practitioner members. The purpose of the Society is to foster the art and science of Medicine and as advocates of quality health care for the people.

To accomplish its purpose the Society:

1. Encourages further development of medical knowledge and skills in its members and in the profession as a whole.
2. Promotes high standards of education for all members of the medical care team.
3. Fosters programs to attract capable individuals to the medical care team and urges them to serve in areas of need.

4. Motivates physicians to teach new generations of health care professionals.
5. Advocates practices that hold down health care costs while providing quality medical care.
6. Urges physicians to incorporate prevention regularly in their practice.
7. Provides the leadership that helps meet the needs for change while maintaining the values of a good patient-physician relationship.
8. Guarantees that physician members meet the highest standards of medical ethics.

Since its beginning, the Society has provided leadership that has helped improve the quality of life of Arkansans. As an example, in 1879 members of the Society initiated a statewide quarantine which limited the spread of deadly yellow fever. In that same year, the Society members became founders of the first medical school in Arkansas, and in 1881 sponsored the establishment of the Arkansas State Board of Health. In 1890, the Society members participated financially in constructing a new building for the medical school. In 1893 and 1903, the Society, through its Legislative Committee, led in the adoption of stronger licensing laws in Arkansas. Since its inception, the *Journal of the Arkansas Medical Society* has provided news of scientific advances and has been published continuously since 1904. The Society, in 1929, sponsored a Medical Practices Act to guard against quackery. Initial development of Arkansas Blue Cross and Blue Shield was sponsored by the Society in 1949. In 1959, the Society vigorously sponsored the first statewide vaccinations against the ravages of poliomyelitis. In 1961, the Society established the Medical Education Foundation for Arkansas to help provide loans for needy medical students and support other aspects of medical education. To the present time, many Society members served on state boards and other organizations charged with the responsibility for assessing future health needs and the most efficient utilization of health care resources.

The Arkansas Medical Society is governed and directed by the House of Delegates and the Council, each made up of representatives from geographic areas. The annual Society meeting is held each spring and features scientific presentations and displays of the advancements of medicine.

The medical profession has long subscribed to a body of ethical statements developed primarily for the benefit of the patient. As a member of this profession, a physician must recognize responsibility not only to patients, but also to society, to other health professionals, and to self. The following principles adopted by the American Medical Association are not laws, but standards of conduct which define the essentials of honorable behavior for the physician.

I. A physician shall be dedicated to providing competent medical service with compassion and respect for human dignity.

II. A physician shall deal honestly with patients and colleagues, and strive to expose those physicians deficient in character or competence, or who engage in fraud or deception.

III. A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interests of the patient.

IV. A physician shall respect the rights of patients, of colleagues, and of other health professionals, and shall safeguard patient confidences within the constraints of the law.

V. A physician shall continue to study, apply and advance scientific knowledge, make relevant information available to patients, colleagues, and the public, obtain consultation, and use the talents of other health professionals when indicated.

VI. A physician shall, in the provision of appropriate patient care, except in emergencies, be free to choose whom to serve, with whom to associate, and the environment in which to provide medical services.

VII. A physician shall recognize a responsibility to participate in activities contributing to an improved community.

Position Paper on Informed Consent

Informed consent may be defined as the duty of a physician, before treating a patient, to explain the procedures to the patient and to warn him of the risks or dangers inherent in any part of the therapy, so as to enable the patient to make a reasonable choice concerning treatment. This duty also requires the physician to inform the patient of the different modalities of treatment.

The doctrine of informed consent is an outgrowth of two fundamental principles of Anglo-

American law. The first is the concept of the "fiduciary relationship." Under this concept, a person to whom another person has given a special trust or confidence is required to act in good faith and in the interest of the person. Because of the special knowledge and training of the physician, the patient-physician relationship is a fiduciary relationship. Such a relationship imposes on the physician the duty to disclose to the patient pertinent facts concerning the patient's condition and treatment.

The second principle on which the informed consent doctrine is based is that of self-determination. A legally competent person has the right to decide what is to be done to his/her body and cannot be compelled to accept any treatment or procedures.

Arkansas law, specifically Act 709 of 1979, essentially addresses informed consent and states:

(1) "The plaintiff shall have the burden of proving the treatment, procedure or surgery was performed in other than an emergency situation and that the medical care provider did not supply that type of information regarding treatment, procedure or surgery as would customarily have been given to a patient in the position of the injured person or other persons authorized to give consent for such a patient by other medical care providers with similar training and experience at the time of the treatment, procedure or surgery in the locality in which the medical care provider practices or in a similar locality.

(2) "In determining whether the plaintiff has satisfied the requirements of paragraph (b) (1) of this Section, the following matters shall also be considered as material issues:

(a) Whether a person of ordinary intelligence and awareness in a position similar to that of the injured person or persons giving consent on his behalf could reasonably be expected to know of the risks or hazards inherent in such treatment, procedure or surgery.

(b) Whether the injured party or the person giving consent on his behalf know of the risks or hazards inherent in such treatment, procedure or surgery.

(c) Whether the injured party would have undergone the treatment, procedure or surgery regardless of the risk involved or whether he did not wish to be informed thereof;

(d) Whether it was reasonable for the medical care provider to limit disclosure of information because such disclosure could be expected to adversely and substantially affect the injured person's condition."

The Arkansas Medical Society is of the opinion that a physician has a moral as well as a legal obligation to inform patients and/or their families of risks and/or side effects of treatment and the advantages and disadvantages of various treatment modalities. Such explanation should be provided in a manner that should be understood by the patient and/or family.

It is the responsibility of hospitals and their medical staffs to develop adequate consent forms. They should indicate the type of procedure, the reasonable risks associated, and that the patient and/or family has had an opportunity to discuss the procedure or treatment with the physician and other qualified persons.

The Arkansas Medical Society is of the opinion that an informed patient will result in a more cooperative patient as well as a better patient-physician relationship and better health care. Furthermore, the Arkansas Medical Society is of the opinion that a signed consent form is not and should not be a substitution for a direct discussion between the patient and physician.

Report of the Executive Vice President
C. C. Long, M.D.

The past year has been one in which more basic changes in the Medical Society have occurred than in any year in the history of the Society.

The House of Delegates voted last April to build a building and transfer the headquarters office to Little Rock and that in the time prior to this transfer that a branch office be opened in Little Rock. This was done. The branch office was opened in the Plaza West Building on University Avenue in Little Rock in September. Two members of the executive staff, Mr. Ken LaMastus and Mr. David Wroten, were transferred to Little Rock to staff this office. In addition to the renting of the space and transferring the personnel, a system of hardware and software was obtained so that the computer in Little Rock would transmit directly to our word processor in Fort Smith messages that were to be transcribed and mailed to

the membership. This eliminated a lot of time and effort; however, it did involve considerable planning to get the necessary connections so that the two machines could talk back and forth to each other. It is working well at the present time and cuts down the time necessary to develop and mail Legislative Alerts and other important material to our members.

Also the staff has been working very closely with the Building Committee in selecting the project director for the new building in Little Rock, evaluating sites and choosing a location and also interviewing and selecting architects and choosing basic plans for the building. The Building Committee has worked very hard and, at each of their meetings, one or more of the office staff has been in attendance to try to support them and take care of the necessary details.

During this year, the office staff has continued its visitation program to the county medical societies and has been very active in soliciting funds for the State Legislative Fund. At the time of the General Election in November, monies from this fund were distributed to numerous candidates who had supported medicine's ideas and those candidates who were recommended by our members in respective counties.

In addition to this activity, the staff, primarily through the efforts of David Wroten, has developed a large student section composed of over 250 members at the Medical School. This section has become quite active and the staff will continue to work and support them.

On the national legislative scene, we were active in helping the American Medical Association lobbyist defeat the mandatory assignment of Medicare claims. Two trips were made to Washington, D. C., as well as numerous letters written and phone calls made to the national legislators.

The central office staff conducted a survey shortly after the Annual Session last year to ascertain the number of the members of our Society who would participate in the voluntary fee freeze under Federal guidelines for patients. We determined we had a very high percentage of doctors in Arkansas who agreed to voluntarily freeze their fees.

In addition to these special activities, the regular activities of the Society were conducted, such as planning the Annual Session, collecting dues, and providing information not only to Society members but other groups, and maintaining ongoing liaison with various members of the Health Department and other State agencies and bureaus. We anticipate in the coming year that as more of the functions are divided and preparation is made for transferring the functions to the new office in Little Rock, many decisions will be made and considerable time and effort will be expended in trying to make this as effective and efficient as possible.

Budget Committee
John M. Hestir, M.D., Chairman

The Budget Committee submitted the following budget for 1985. The complete budget, as presented to the Council, is available to members upon request.

INCOME

Budget Item	*1985 Budget*
Membership Dues	$418,000.00
Advertising	36,500.00
Booth Income	14,000.00
Annual Session	6,000.00
AMA Reimbursement	6,000.00
Miscellaneous and Rosters	6,000.00
Interest	100,000.00
Specialty Desk	1,200.00
INTRAV Reimbursement	3,000.00
Continuing Medical Education	500.00
	$591,200.00

EXPENSES

Salaries	$273,531.25
Travel and Convention	60,000.00
President's Travel	3,000.00
Taxes	20,350.00
Retirement	26,500.00
Stationery and Printing	10,000.00
Office Supplies and Expenses	24,000.00
Telephone and Telegraph	17,000.00
Rent	29,000.00
Postage	33,500.00
Insurance and Bonds	25,000.00
Auditing	4,000.00
Council Expense	7,000.00
Lobbying Activities	6,500.00
Journal Printing	65,000.00
Annual Session	40,000.00
Dues and Subscriptions	6,000.00
Gifts and Contributions	2,000.00
Woman's Auxiliary	1,700.00
Legal Services	32,500.00

Special Committee	2,000.00
Rural Health	500.00
Miscellaneous	2,500.00
Freight and Express	100.00
Office Equipment	1,000.00
Continuing Medical Education	500.00
	$693,181.25

Report on the Medical Student Component Society
Mr. David Wroten

Efforts to organize the medical students at the University of Arkansas College of Medicine over the past year have been very successful. Thanks should go to Dr. Thomas Bruce and Dr. Ture Schoultz of the College of Medicine for their help in making this project a success. Thanks also need to go to Dr. Charles Wilkins and the members of the Council for their support and encouragement.

During the month of June, a small group of sophomore medical students was organized into a planning committee to conduct the freshman orientation. This group also became the planning committee for the Student Component Society. With the help of the Medical Society staff, they developed a Constitution and By-Laws, elected a group of officers, and named themselves the Arkansas Medical Society-Medical Student Section (AMS-MSS). The elected officers were Steve Schexnayder, President; Jill Tilly Hankins, Vice President; Kent Nunnally, Secretary-Treasurer; Lance Lincoln, AMS Delegate, and Berry Baskin, AMS Alternate Delegate. They then submitted their Constitution and By-Laws along with a request for a charter to the Council and on August 19, 1984, the charter was approved.

During this time, a brochure was developed outlining the benefits of medical student membership in the Arkansas Medical Society and a letter was mailed out to every freshman and sophomore medical student concerning the new organization. To further promote the newly-created organization, a presentation was made on August 15th at Freshman Orientation concerning the need for medical students to become actively involved in Medical Society activities, and an informal social gathering was held for the freshmen and sophomore students.

Enrollment in the AMS-MSS grew very rapidly. Within a month after forming the Medical Student Section, over 100 freshmen and sophomore students had joined. By October, membership had risen to approximately 175. In the month of December, membership was extended to junior and senior medical students. Currently, membership is approaching 300.

Since its formation, the AMS-MSS has had three scheduled meetings. At their January meeting they elected officers for the coming year. Those officers are as follows: President, Mr. Steve Schexnayder; Vice President, Miss Susan Rebsamen; Secretary-Treasurer, Kent Nunnally; AMS Delegate, Lance Lincoln; AMS Alternate Delegate, E. J. Chauvan. The mailing address for the AMS-MSS is 4301 West Markham Street, Slot 603, Little Rock, Arkansas 72205. The telephone number is 661-5348.

Report of the Medical Education Foundation
W. Martin Eisele, M.D., President

During the past year, the Medical Education Foundation for Arkansas continued its support of the University of Arkansas College of Medicine by sponsoring ten lectures during the 1984-85 school year. These lectures are very well received by the faculty and the students. The Foundation requested that the College of Medicine name one of the sponsored lectures "The Dr. Robert Watson Lecture" honoring Dr. Watson who was the original president of the Foundation and who, so wisely, guided the growth of the Foundation over many, many years. For health reasons, Dr. Watson resigned from the Foundation in 1983, and it is most fitting that he should be honored in this manner. The Foundation also requested that the College of Medicine name one of the sponsored lectures "The Dr. James Kolb Lecture." Dr. Kolb was the one who initially proposed the creation of the Medical Education Foundation for Arkansas by the Medical Society. Dr. Kolb and his family have been active supporters of the Foundation.

The Foundation awarded a grant of $10,000 to the "Dr. Robert Watson History Room" at the College Library, Edwina Walls, the University of Arkansas for Medical Sciences librarian, reported, "because of MEFFA's support, valuable resources have been obtained and made available to the medical community, students and Arkansas citizens. We are very appreciative of this continued support." She went on to say that the first $10,000 grant from MEFFA was used to purchase a micro-

film collection entitled, "Early American Medical Imprints, 1668-1820", to restore three rare books in the UAMS collection, and to acquire fifteen additional rare volumes.

Members of the Society are reminded that the Foundation is a charitable organization and contributions are tax deductible. Contributions to the Foundation will help promote medical education. It is suggested that the Foundation would be an appropriate recipient of memorial donations.

Report of the Arkansas Medical Society Political Action Committee
John Hestir, M.D., Chairman

The Arkansas Medical Society Political Action Committee held a meeting on April 14, 1984, after appointment of Board members for the 1984-85 year. The Board consists of: Robert Miller, Helena; Ken Lilly, Fort Smith; James M. Kolb, Jr., Russellville; Samuel Koenig, Fort Smith; Milton Deneke, West Memphis; John Hestir, DeWitt; Margaret Harris, Hope; Ramona Taylor, West Memphis; John Crenshaw, Pine Bluff; Roger Cagle, Paragould; Esther Lopez, Newport; Richard Martin, Paragould; Judy McDonald, Fayetteville; John Giller, El Dorado; Charles Rodgers, Little Rock, and Paul Meredith, Texarkana.

The out-going chairman, Larry Lawson, reviewed the purpose of the Political Action Committee, emphasizing that the PAC represents members of the Medical Society in political activity, particularly on the Federal level.

John Hestir was elected chairman for the ensuing year and Charles Rodgers was re-elected secretary-treasurer.

James Weber, representing the Arkansas Medical Society Legislative Committee Fund, addressed the PAC Board regarding candidates for the State constitutional offices. The PAC Board subsequently voted to provide support for candidates for the Supreme Court and the Secretary of State, as recommended by Dr. Weber.

The Board heard a number of people speaking on behalf of various political candidates. It was voted to poll the PAC members for opinions on candidate support for the 1984 elections and questions to be presented to candidates at the PAC candidate interviews.

The Board met in late April 1984 to interview candidates for the first and second congressional district races. The Board held a conference call after the primary for consideration of PAC support in the run-off election. In August, the PAC Board interviewed candidates for the United States Senate race.

In this election-year cycle, the PAC Board provided candidate support in races for the following positions: Chief Justice of the Supreme Court, Justice of the Supreme Court, Secretary of State, Governor, First Congressional District Representative, Second Congressional District Representative (primary, run-off and general elections), and the United States Senate. The Political Action Committee also contributed toward the campaign deficit of the winner of the second congressional district race and the Chief Justice of the Supreme Court race. Funds from the American Medical Association Political Action Committee were provided as requested by AMS-PAC for candidate support in the second congressional district race and in the United States Senate race.

The lack of physician participation in AMS-PAC remains a problem. We still have only a small percentage of the Medical Society membership as members of the PAC. It is important that we support those candidates who support the free enterprise system in constitutional government and who resist the encroachment and interference of government in the lives of its citizens. Every member of the Arkansas Medical Society is encouraged to contribute to PAC in 1985. We must begin now to prepare for the elections of 1986.

AMA-PAC is a separate fund established by the American Medical Association. AMS-PAC is a separate segregated fund established by the Arkansas Medical Society. Contributions received from corporations will be used solely for political education purposes and not deposited in the separate segregated funds. Contributions are not limited to this suggested amount. Neither AMA nor AMS will favor or disadvantage anyone based upon the amounts of or failure to make PAC contributions. Voluntary political contributions will be used in connection with State and Federal elections and are subject to the prohibitions and limitations of the Federal Election Campaign Act (Federal regulations require this notice).

Arkansas Department of Health
Ben N. Saltzman, M.D., Director

The year 1984 has been one of steady progress for the Arkansas Department of Health. It has been a year in which the State Board of Health and the staff of the Department have worked together in complete harmony. The members of the Board have been invaluable in helping us achieve our goals and providing leadership as well as support. I am privileged to list the officers and directors of the Board of Health:

Robert D. Miller, Jr., M.D., President; Wanda McRae, Vice President; Ben N. Saltzman, M.D.,

Secretary/Director; Chester R. Blackmon, D.C.; Wayne G. Elliott, M.D.; Robert Fahr, D.V.M.; Nettie Jane Goss, R.N.; Howard R. Harris, M.D.; J. Virgil Highfill; Charles I. Hughes, O.D.; William R. Hunter, P.D.; Henry W. Keisker, M.D.; David Laffoon; Kenneth E. Lilly, M.D.; Marvin D. Loyd, D.D.S.; James E. McClelland, P.E.; James L. Maupin, M.D.; Kenneth R. Meacham, M.D.; Bill E. Parette, R.S.; Donald Paul Phelan.

This year I was privileged to serve as Chairman of an Indigent Health Care Task Force, appointed by Governor Bill Clinton. The members of the Task Force were:

Ben N. Saltzman, M.D., Chairman; Harry Ward, M.D.; Robert Fiser, M.D.; Senator Knox Nelson; Curtis Ivery, Ed.D.; Representative Walter Day; Bill Cross; Asa Crow, M.D.; Ray Scott; Martha Flowers, M.D.; Worthie Springer, M.D.

Governor Clinton felt that it was time to look into the indigent health care situation. Health providers of all types—including practicing physicians, hospitals, nursing homes and other health practitioners—are affected. The staff of the Arkansas Department of Health, headed by Charles McGrew, has played an important part in developing the research and detailed staff work necessary to present a cohesive plan to the Governor.

In recent weeks, the members of the Executive Committee of the Arkansas Medical Society and the staff leadership of the Health Department have worked together to monitor the legislative process in the new legislative session.

On August 22, 1984, the annual Arkansas Rural Health Conference was held at Ferndale, Arkansas, under the sponsorship of the Arkansas Medical Society. The staff of the Health Department was responsible for producing a very successful conference. Dr. Don Howard, Chairman of the Committee on Public Health of the Arkansas Medical Society, served as moderator. Present were several officers of the Arkansas Medical Society.

The Department of Health recognizes that the practicing physician is paramount in all matters pertaining to the health of the people of our State. Our Home Health Services, our clinics, and our Health Education processes are all dependent upon the cooperation and support of the practicing community. We hope to maintain a good relationship with the Arkansas Medical Society whose membership makes up the major portion of our support.

What follows is a summary of our accomplishments this past year. Our bureau directors are available to answer any questions that the physician community might have. We are all open to suggestions to improve our services.

BUREAU OF COMMUNITY HEALTH SERVICES

Nancy Kirsch, Director

The Bureau of Community Health Services (BCHS) is responsible for the administrative direction and supervision of all field services, personnel, and resources through eleven area offices and ninety-six local health units. The following paragraphs delineate the major accomplishments for 1984.

Funds became available in 1984 through the Arkansas Industrial Development Commission (AIDC) for construction and renovation of public health facilities. The Bureau of Community Health Services chaired a Health Department committee which assisted AIDC in review and evaluation of grant applications for public health facilities. Area management and local health unit staffs worked closely with local government officials and community leaders in preparing the grant applications.

Sixteen counties or cities submitted grant applications for construction of new facilities or renovation of existing local health unit facilities. Of these sixteen applications, two were approved and one placed on standby in case leftover funds became available. Construction of new facilities was approved for the Logan county health units in Booneville and Paris. Completion of the partially constructed new Conway county health unit was funded. Construction of a new facility for the Polk county health unit was placed on standby.

The Bureau of Community Health Services formally implemented its local health unit management evaluation system on July 1, 1984. The management evaluation system is a management tool for field and central office personnel to use in evaluating and improving the administrative operations of local health units.

Area management staffs are required to perform management evaluations on each one of their local health units annually. A team of central office personnel conduct a management eval-

uation in each of the eleven areas as oversight each year. Different sites are chosen each year. Through December 31, 1984, six managements evaluations had been conducted by central office personnel and 11 evaluations had been completed by area management staffs.

Initial results of these evaluations indicate great improvements have been made in the management of local health units; particularly in the areas of fiscal accountability for funds collected, record keeping, and personnel management. However, these evaluations also indicate that many local health unit facilities are in need of significant improvements. Many lack adequate space for the staffs housed there and the number of patients routinely seen in the units.

The BCHS continued its program of inservice training for its 80 Local Health Unit Administrators. Staff development programs were held in March and October of 1984. The October meeting included a panel discussion on the executive and legislative process of Arkansas State government. The panel members included Senator William D. Moore, Jr. of El Dorado, Representative John Miller of Melbourne, Carol Rasco of the Governor's Office, and Ken Garner from the Bureau of Legislative Research. This meeting also included a presentation by staff members of Arkansas Children's Hospital on creating positive communications with patients/clients and the public in general.

Many different community health services and programs are offered through local health units. Services that are offered are based on the needs of the community and on available resources. During 1984, many local health units continued to make their services more accessible to their communities by establishing satellite and evening clinics. Much of the space for satellite clinics was donated by community groups, churches, etc. Details regarding these services and programs appear elsewhere in this report.

BUREAU OF ENVIRONMENTAL HEALTH SERVICES

Jerry G. Hill, Director

DIVISION OF SANITARIAN SERVICES

FDA Contract Section

The FDA Contract Program is the only federal program operating in the Division of Sanitarian Services. The Contract Program works conjunctively with state and federal inspectors to insure a wholesome food supply for the public.

In 1984, the Contract Program became accountable for inspecting ice manufacturers across the State. Continued obligations include inspecting water and soft drink manufacturers, grain storage elevators, wholesale bakeries, wholesale grocer operations, general salvage dealers and wholesale candy manufacturers.

A total of sixty-nine food and filth samples were collected during 385 inspections of the above-listed firms. Industry management voluntarily destroyed 3,301 pounds of defiled food values at $1,130 and spent approximately $57,000 correcting violations.

Food and Dairy Products

New Food Store, Market and Warehouse Rules and Regulations that confirm with U. S. Public Health Service 1982 Model Ordinance were completed, adopted by the Board of Health and signed by the Governor.

Both Food Service Evaluation Officers completed recertification requirements of Federal Food and Drug Public Health Service.

Program Specialists conducted a full day training program for every Sanitarian in the State.

Federal Food and Drug Public Health personnel conducted a statewide evaluation of food service establishments in Arkansas on January 22, 1985, we will discuss the results with Federal FDA officials.

The Food and Dairy Section Evaluation Officers standardized 10 Sanitarian Supervisors in uniform inspections of food service. The Supervisor will then standardize each sanitarian in his area.

Two counties in each management area were audited for compliance with Program Standards.

Inspections in the manufactured milk program were increased to four times yearly.

There was a 6.3% increase over 1983 in food establishment plans reviewed. The Plan Review office is now able to reproduce any plans microfilmed in the last two years.

Meat Certification duties were transferred to Pulaski County Sanitarian.

All General Salvagers were inspected as required.

Arkansas Grade "A" Milk Program

The Arkansas Grade "A" Milk Program personnel, with the Grade "A" Advisory Committee, spent much of 1984 working to revise the rules and regulations pertaining to Grade "A" Milk and Milk Products. The revised regulations went into effect October 1, 1984.

The Division Director, the Program Administrator, and a Milk Program Sanitarian met quarterly as members of the Grade "A" Dairy Advisory Committee. This committee serves as an advisory Committee on regulation changes or additions.

To improve the quality and sanitary production of milk, we worked with Agricultural Extension Service, U. S. Public Health Service, and the University of Arkansas at Fayetteville.

The Milk Program personnel worked with Pollution Control and Ecology and Soil Conservation Service personnel on pollution concerns in dairy farms.

The Program Administrator is serving on the Board of Directors of the Dairy Industry Federation. The purpose of the board is to promote better quality milk for consumers and to promote milk consumption. The Dairy Industry Federation sponsored "June is Dairy Month" by publicizing dairy events in local newspaper and local radio stations and getting a Governor's proclamation.

The Dairy Industry Federation held a statewide meeting in Russellville and outstanding youth received awards.

The 90% plus milk quality rating awarded by the U. S. Public Health Service was maintained on 15 plants and producer group ratings and eight U. S. Public Health Service check ratings. The 90% plus rating is maintained by an aggressive inspection (11,626 inspections) and sampling (18,876 samples) program.

General Sanitation Section

A comprehensive 2-day in-service training program was presented to all county sanitarians. The section developed a manual for a training aid and reference source. The training program and manual covered both basic and new concepts of the swimming pool and septic tank programs. Program Specialists identified strengths and weaknesses of sanitarians in each Management Area of the State. Future training will be based on this.

After the in-service training program was completed, the Program Specialists conducted the annual program evaluation. It revealed significant statewide improvement in services performed by sanitarians.

Nine new sanitarians were trained in all areas of General Sanitation, swimming pools, septic tank systems and the other programs administered by the section. One new sanitarian supervisor was also oriented in 1984.

To reduce oversights in swimming pool plan review, submitted plans are now jointly reviewed by the General Sanitation Section and the Division of Engineering. This will reduce costly construction errors and promote a more uniform plan review procedure.

The General Sanitation Section licensed 1,308 septic tank installers, 159 septic tank pumpers and one tattoo parlor. Section personnel reviewed 113 subdivision plans and 66 alternate sewage disposals.

DIVISION OF HEALTH FACILITY SERVICES

During 1984, the Division performed a large number of initial surveys in new categories of health care providers. For example, a new, lower level of care for hospitalized patients is now available in Arkansas. In hospitals that are licensed for fewer than fifty beds, this Division certified twenty-two hospitals for "Swing Bed" care. For hospitals licensed for more than fifty beds, seven hospitals were certified for "Recuperation Center Beds." In both instances, patients who are in a "Swing Bed" or a "Recuperation Center Bed" require a lower level of care than that provided the typical acute care patient in a hospital.

Other new types of surveys were five Alcohol/Drug Units, three Rehabilitation Hospitals, all for exemption from the new Prospective Payment System (PPS) instituted in October of 1983. One new Comprehensive Outpatient Rehabilitation Facility (CORF) was certified. These CORF's offer up to eleven services to outpatients. Three services; physician services, physical therapy, and social services are mandatory while the other services are elective.

In other categories of health care provider, several initial surveys were conducted of new facilities. For example, eight Independent Laboratories, two End Stage Renal Disease Units, four Physical Therapists in Independent Practice, one

Outpatient Speech Pathology Center, and two Outpatient Physical Therapy Centers received Surveys for the first time.

Also, in accordance with Act 509 of 1983, this office began the "registering process" of Abortion Clinics.

Act 454 of 1975, which constitutes the reviewing and approving of Health Maintenance Organization applications by this Division and the Insurance Commissioner, was placed into effect.

Also, in March of 1984, this office, under contract with the Arkansas Health Planning and Development Agency, hired a Construction Engineer who began conducting "Modernization Surveys" of Arkansas hospitals and some county health units.

In 1984, this Division also continued its computerization process by putting all surveys conducted by the Medicare Certification Program on the word processor.

DIVISION OF PUBLIC HEALTH LABORATORIES

The 1984 U. S. Environmental Protection Agency on-site evaluation of the Organic and Inorganic Laboratories and Radiochemistry Laboratory resulted in a recommendation that the laboratories be recertified under the National Interim Primary Drinking Water regulations.

The evaluation was very complimentary to the professionalism and competence of those laboratories' staffs.

DIVISION OF RADIATION AND EMERGENCY MANAGEMENT PROGRAMS

The Arkansas Radiation Control Program underwent the 20th Regulatory Program Review by the U. S. Nuclear Regulatory Commission during January of 1984. This in-depth on-site review was conducted by representatives of Region IV of the U. S. NRC. The conclusions reported by the U. S. NRC were that the Arkansas Radiation Control Program is adequate to protect the public health and safety, and is compatible with the regulatory programs of the NRC and other Agreement States.

Under Act 536 of 1983, the Arkansas Department of Health's Nuclear Planning and Response Program awarded quarterly grants to the five counties which are required to take an active role in emergency planning and response efforts for the off-site area surrounding Arkansas Nuclear One. These grants are designed to assist counties in defraying the costs incurred by this effort.

The Nuclear Planning and Response Program assumed responsibility for the Alert and Notification System for the emergency planning zone surrounding the nuclear power reactor at Russellville. This includes all deployment, maintenance, and weekly testing of the siren warning system, radios located in residences and businesses, and the nuclear emergency radio network system transceivers and repeaters.

Act 9 of 1983 enabled Arkansas to enter into a compact with four other states for development and management of a low-level radioactive waste disposal site. The Director of the Division of Radiation Control and Emergency Management was designated by the Governor to be the Arkansas member during this biennium. During 1984, emphasis was placed on determining land areas of the five member states which are unsuitable for the disposal of low-level radioactive waste. The Central Interstate Low-Level Radioactive Waste Compact Commission contracted with Dames & Moore, a consulting firm, to perform a site exclusionary study. This study will be completed and the report will be published on March 1, 1985.

DIVISION OF ENGINEERING

The Division has exceeded all National Environmental Protection Agency goals for compliance with the Safe Drinking Water Act to provide better water quality to the public. It has also been determined that 70% of the State's non-community water supplies are in compliance with the Act (i.e., recreational areas, rest stop, restaurants with their own supply). With EPA's assistance, we have initiated legal enforcement action against 2 community water systems who are persistent violators of the Safe Drinking Water Act.

The Division is implementing a computerized program to assist in program management for water supply supervision program activities.

An investigation of groundwater contamination at Green Forest has prompted a dye study to determine the sources of contamination in local private water wells and springs. One source is thought to be the Green Forest sewage treatment plant.

The Division and U. S. Public Health Service

co-sponsored a workshop "Control of Mosquito-Borne Diseases." One hundred participants from City, County and State governments, as well as industry and institutional people, were present.

The Division has finalized significant changes to the plumbing program. Arkansas State Plumbing Code, Amendment No. 3, Apprentice Plumber Standards, was adopted. Also adopted was Amendment No. 4, Chapter 16, regulating Solar Hot Water and Hydronic Heating Systems. Revisions to the Code were drafted and examinations for Master and Journeyman Plumber's Licenses were revised and updated.

BUREAU OF HEALTH RESOURCES

A. Stuart Fitzhugh, M.D., Director

OFFICE OF QUALITY ASSURANCE

In June of 1984, Bureau of Health Resources created an Office of Quality Assurance with a full time director to coordinate the development of quality assurance programs. The director also chairs the Agency Quality Assurance Committee.

The Quality Assurance Committee developed policy and procedures that allow each program/division/bureau to develop their own quality assurance program. This structured technique can identify improvements needed in public health programs and operations. This quality assurance approach also encourages changes without threatening the people who are changing. Beyond that, each group can establish its own standards of performance and consider alternative methods to meet the desired performance standards. All assessment results are reported to the Quality Assurance Committee to ensure that problems/deficiencies have actually been solved.

OFFICE OF POLICIES AND PROCEDURES

During 1984, the Office of Policies and Procedures coordinated the revision and distribution of two volumes of the Agency's Policies and Procedures Manual. These are: Volume 1—Administration General, and Volume 2—Personnel.

The Office also provided technical assistance in preparing and distributing 127 Agency-wide memorandums and 62 Manual changes.

In addition, the Office of Policies and Procedures conducted several training sessions for Agency employees on "Writing for Manuals" and "Procedures for Transmittals and Memos."

DIVISION OF NURSING

This year the Nursing Division embarked upon their "new" approach to professional inservice by producing the first of four tapes on nursing documentation. The Division also purchased the equipment needed for the areas to use video tapes for group and individual teaching and inservice. Professional inservice programs can now be shared with all nursing personnel throughout the State.

Also, the Division of Nursing co-sponsored a workshop with UAMSC College of Nursing and Public Health Nurses Association of Arkansas which brought the internationally known speaker, Sarah Ellen Archer, to Little Rock. The workshop, "Community Health Nursing—Where We Are and Where We Are Going" was very well attended by Arkansas Department of Health Public Health Nurses, plus other nurses and professionals.

In an effort to institute a Quality Assurance program throughout the State, Performance Evaluation Standards for all nursing positions were completed and implemented. The writing of nursing procedures and clinical standards, the next step in quality assurance, has been undertaken and completion will be a goal for 1985.

DIVISION OF RECORDS AND CLERICAL SERVICES

The Division has continued its efforts to properly classify current administrative support staff. Standards have been developed to assist in this process.

Personnel has continued working with all Bureaus in developing and maintaining a records management program.

An Orientation Manual for local health unit administrative support staff has been developed.

In-service Workshops continued to be held in the eleven management areas.

DIVISION OF PHARMACY SERVICES

The Division completed a statewide program to provide on-site pharmacy services in each of the county public health units. Each unit will have the services of a local consultant pharmacist to assure accountability and assessibility of medication used by patients of the public health units.

The Division destroyed over three million dose units of narcotic and controlled substances sub-

mitted by legitimate drug handlers and police. One hundred inspections of drug facilities were performed. One hundred thirty-nine investigations of legitimate drug handlers were conducted involving physicians, dentists, veterinarians, nurses, and other persons involved in sale or use of drugs.

The Division provided training and instruction for senior pharmacy students from the University of Arkansas College of Pharmacy who each served a five-week rotation at the Health Department.

Personnel of the Division assisted and provided consultation to innumerable state boards and agencies and federal agencies in matters pertaining to drugs, cosmetics, and medical devices and the laws and regulations involved in their handling.

The Director of the Division served as an advisor to the Food and Drug Administration and attended numerous meetings regarding drug abuse at their request.

OFFICE OF ENVIRONMENTAL TRAINING AND PROFESSIONAL DEVELOPMENT

The Office of Environmental Training and Professional Development (ET&PD) provides training and continuing education for both Central Office and field environmental personnel. Workshops included: Management Seminar for Secretaries and Administrative Assistants, Media*ese,* Effective Letter Writing, and Mosquito Control. Orientation and training was coordinated for nine (9) new sanitarians and one (1) Sanitarian Supervisor. A workshop on Effectife Presentation Techniques was presented to twelve (12) Sanitarian Supervisors. Four (4) environmental newsletters were published and distributed. The Office monitored fifteen (15) employees taking CDC study courses. For our own continuing education, the Staff Development Coordinator and Health Educator attended the Regional American Trainers Conference in Little Rock, Arkansas.

The Office of ET&PD also provides training and information for the public on environmental topics. The Office presented or assisted sanitarian/environmental personnel with 80 various presentations/workshops. Brochures were distributed to all Local Health Units through the county sanitarians. The Office of ET&PD participated in a Career Day Program at Arkansas College in Batesville.

News releases from the Consumer Product Safety Commission were distributed. The Office assisted CPSC in promoting the Home Electrical Safety Audit by arranging for several agencies for the elderly to distribute the audit too.

To meet and exchange information with environmental professionals from other states, the Staff Development Coordinator and Health Educator, along with the Director and Assistant Director of BEHS, attended the National Environmental Health Association's Annual Educational Conference in Grand Rapids, Michigan.

DIVISION OF MEDICAL SOCIAL SERVICES

In 1984, the Medical Social Services Division hired and orientated four social workers. Staff members developed projects for advocacy and networking in rural areas with the help of Dr. Dennis Poole, Professor of Social Work at Virginia Commonwealth University. In July, Dr. Christine Young, Professor at the Graduate School of Public Health in Pittsburgh, provided three days of consultation for our staff.

DIVISION OF NUTRITION SERVICES

Nutritionists were stationed in each of the eleven field management areas in 1984. This coverage enabled us to be more responsive to the needs of the health unit clinics. Nutritionists counseled 17,000 individual clients in 1984.

Six nutrition education leaflets were developed/revised and printed jointly with the WIC and Health Education and Promotion Programs.

We sponsored two out-of-state speakers who spoke at three statewide meetings on breastfeeding and nutrition misinformation.

Area nutritionists, in addition to counseling and staff education, made presentations for home day care workers, home health aides, hospital sponsored maternity classes, civic clubs, and diabetic groups. They have developed teaching materials and posters for use in 7 county fairs.

DIVISION OF HEALTH EDUCATION AND PROMOTION

The need for Health Education and Promotion activities is more and more apparent with rising health care costs. Health Education and Promotion can *effectively* save both lives and health care dollars by teaching the public about health and encouraging the public to adopt healthful life-

styles. To accomplish this, Divisional Health Education Programs expanded to include students, maternity patients, and new parents. Our field Health Educators provided services to over 50,000 Arkansas residents through a wide variety of classes and clinics.

The Resource Center, located in the Central Office, has provided over 5,000 films in addition to health related information to educators, interested businesses, and the public throughout the State.

In line with Health Education and Promotion's goal to encourage the public to adopt healthy lifestyles, we developed and disseminated promotional materials (e.g., news releases, public service announcements, flyers, pamphlets, and reports) providing over 200,000 Arkansans with the health information needed to make informed decisions.

Since early childhood health patterns and practices set the stage for future health, Health Education and Promotion's Risk Reduction project support efforts to implement comprehensive health education at all grade levels. The introduction of the "Teenage Health Teaching Modules" (THTM) represents a major accomplishment toward this goal. In cooperation with the University of Central Arkansas and the Arkansas Department of Education, this exemplary health education curriculum was introduced to approximately 100 interested individuals in a one-day seminar. This showcase prompted 13 school districts to implement THTM in 1984-85. Continued support was also provided to the "Growing Healthy" curriculum currently utilized in 38 K-6 schools in Arkansas.

Risk Reduction project efforts expanded in 1984 to include health education programs for the public, maternity patients, school age children, and employee groups, reaching over 8,000 individuals.

Given the rising cost of health care as a business expense, employers have both a special opportunity and incentive to enhance the health of employees and their families. To support their efforts, Risk Reduction initiated the development of a comprehensive worksite-employee wellness package to be implemented in two pilot sites in 1985, provided consultation and assistance in employee worksite programs (Dumas Dollar General Corp., DeWitt Footwear Company), and sponsored other related activities.

BUREAU OF PUBLIC HEALTH PROGRAMS

Charles McGrew, Director

RURAL HEALTH OFFICE

The Rural Health Office assists medically underserved rural communities in starting primary care clinics and retaining primary care services. In calendar year 1984, the Rural Health Office accomplished the following:

- Assisted in recruiting and placing 23 physicians, as well as 2 dentists, into shortage areas; recruited and received commitments from an additional 15 National Health Service Corps (NHSC) physicians to begin practice in July of 1985.
- Assisted 2 physicians in securing low interest loans, and 4 communities in securing grants and low interest loans from the State Rural Medical Clinic Revolving Loan Fund to renovate and equip medical clinics.
- Assisted in securing a shift in federal funds from Mountain View (where they were not needed) to Perryville (where they were) to start a new clinic—broke ground in April. The Office assisted in development of a new building for a clinic in College Station which held open house in June. The Office also assisted in securing federal funds for a new clinic in Des Arc.
- Achieved 5 new Health Manpower Shortage Designations in the State making these areas eligible for NHSC physicians. In addition, 3 sites were approved for pediatric placement.
- Assumed and conducted all National Health Service Corps duties and responsibilities for Arkansas, through the existence of a contract between the Rural Health Office and the National Health Service Corps.

DIVISION OF HEALTH STATISTICS AND EPIDEMIOLOGY

In January, 1984, the Division was awarded a contract with the National Center for Health Statistics. This entitles the Division to receive partial reimbursement for the generation of vital statistics data as part of the Cooperative Health Statistics System.

Through this funding, the first vital records/health statistics field representative in the State was hired. He completed his training and is now

working with hospitals, funeral homes, and registrars across the State.

The first occupation and industry coder in the Health Department was hired. The occupation and industry of both parents is now being included in the birth record. This is part of our efforts to establish a data base on occupational and environmental health risks. Two grant applications dealing with occupational health surveillance were submitted to the Centers for Disease Control in Atlanta. These were approved but not funded.

SECTION OF MATERNAL AND CHILD HEALTH

Maternity Program

The Arkansas Department of Health Maternity program increased the number of clinic sites in 1984 by six—Pope, Baxter, Poinsett, Benton, Dallas and Carroll Counties. Maternity services are now available in 64 sites in 51 counties. The patient caseload for the calendar year was 8,261.

In FY84, efforts began to enable the Pulaski County Health Unit at Little Rock to double its caseload of maternity patients. Lease agreements for more space have been signed with Central Baptist Hospital and medical and office equipment has been ordered. The target date for opening the new clinic is late February. It is hoped that this clinic will provide prenatal care for approximately 1,400 patients per year.

During 1984, through the cooperation of local physicians, local hospitals and local health units, maternity services available to indigent, low-risk maternity patients in East Arkansas were expanded. In addition, prenatal classes were held in local health units and high schools for 757 pregnant teenagers.

The ADH staff has worked diligently with the Indigent Care Committee appointed by Governor Clinton to study the medical needs of the indigent in Arkansas. One of the Committee's recommendations to the Governor was that the State's resources be pooled and a system of regionalized care for maternity patients and children under age five be developed.

Teen Parenting Program

The Arkansas Department of Health joined with the Little Rock Public Schools, the University of Arkansas for Medical Sciences, Department of OB/GYN, the Parent Center, Youth Services, Social Services, Developmental Disability Planning Council, Rockefeller Foundation, and the United Way to develop and implement an innovative new program for pregnant teens. Coordinated by the Parent Center, the "Teen Parenting Program" offers pregnant high school students from the Little Rock area a way to stay in school and also get the medical care and counseling they need. Students who wish to participate attend their individual high school each morning and transfer to Metropolitan High School each afternoon for classes and counseling aimed specifically to their needs.

The goals of the program are: 1) to help the pregnant student have a healthy pregnancy and healthy baby; 2) to develop the parenting skills necessary to become an effective parent; and 3) to help the student remain in school to obtain the needed education to become a responsible citizen of the community. The program components include 1) education on nutrition, fetal growth and development, maternal bodily changes, characteristics of the newborn, etc.; 2) one on one counseling in any way necessary; and 3) routine prenatal care on campus if desired by the student. Thirty-two students were served by the program in its first semester of operation.

Child Health Program

Sudden Infant Death Syndrome

The Sudden Infant Death Syndrome (SIDS) program offers autopsy services, transportation and counseling to all families experiencing a suspected SIDS death. To qualify for autopsy, the infant must be between one week and one year of age and must have been previously healthy. Arkansas Children's Hospital is the autopsy contractor and Arkansas Mortuary provides transportation of the deceased to and from Arkansas Children's Hospital. Within 24 hours of autopsy, the Arkansas Department of Health physician or nurse notifies the family of preliminary autopsy findings. A local public health nurse offers to visit the family for counseling, education, and support regarding SIDS.

During FY '84, 78 suspected SIDS deaths were reported to ADH. Of this total, 56 autopsies were permitted by parents/guardians and conducted. Of the autopsies performed, 37 were diagnosed as SIDS and 19 were attributed to other causes.

The ADH staff has done much in the last year

to improve the reporting of suspected SIDS cases and will continue their efforts this year. Arkansas law requires that any local health or law enforcement provider notify the local coroner of a suspected SIDS death. The coroner is then required to offer the family an autopsy and to report the death to the Arkansas Department of Health.

Loan-A-Seat Program

The number one cause of death of children over one year old in the nation and in Arkansas is motor vehicle accidents. In recognition of this fact, Arkansas passed Act 749 of 1983, the Child Passenger Protection Act, which requires that children from birth to three years old must ride in an approved car safety seat; children three to five must ride in an approved safety seat or they must be buckled in an adult vehicle seat belt.

The Department of Health established a Loan-A-Seat program in September 1983, to allow low-income families an opportunity to obtain an infant seat and to promote the use of child safety seats. From a small start, the program has expanded to 46 counties and has enjoyed an excellent public reception. Because demand has far exceeded supply, the program will double its inventory of 2,000 seats this year. During this past year, six accidents have been reported involving these safety seats. In every case the protected child was unharmed while other passengers were injured.

Family Planning Program

In 1984, the Family Planning Program served 42,000 patients, an increase of 3,000 from 1983. In addition, three regional vasectomy clinics were initiated, bringing the total number of sites to six, resulting in a total of 149 vasectomies performed statewide. One-time funding enabled the Program to pay for 313 female sterilization operations.

The Program was also successful in securing additional Title X funding for a natural family planning expansion project, designed to serve low-income, non-English speaking women at high risk of unintended pregnancy. That project will begin in 1985.

WIC

The Special Supplement Food Program for Women, Infants, and Children (WIC) provides nutritious foods and nutrition education to pregnant and breast feeding women, infants and children to five years of age who are found to be income eligible and at nutritional risk.

In FY '84, the Arkansas WIC program was selected as one of twenty-seven states to receive additional funds, bringing the full FY '84 budget to $16,351,919. Funding levels were based on state figures of individuals below 185% of the poverty level, low birth weight and infant mortality rates. The additional monies allowed the caseload to grow from 25,184 in October 1983 to 34,399 in September 1984.

Dental Program

The Dental Program assisted 9 communities in purchasing equipment and supplies to fluoridate their water supplies, and purchased chemical supplies for 4 additional communities. Department of Health staff maintained statewide fluoride surveillance and monitoring for 150 fluoridated systems.

Dental health education projects were organized in 13 additional school districts, and a total of 16 training workshops were conducted for classroom teachers. The Dental Health education staff prepared and distributed promotional and educational materials to all county health units, to 100 hospitals and to over 200 nursing homes.

Finally, dental treatment services were provided to 1,300 Medicaid-eligible children in the Maternal and Child Health Dental Clinic located at Central Baptist Hospital in Little Rock.

SECTION OF ENVIRONMENTAL AND HEALTH MAINTENANCE

Epidemiology

On November 15, 1984, the State Board of Health voted to amend the "Rules & Regulations Pertaining to Communicable Disease Control" by declaring the following occupational diseases notifiable: a) Coal Worker's Pneumoconiosis; b) Asbestosis; c) Byssinosis; d) Silicosis; and e) Mesothelioma.

Cases will be reported in the same manner as for communicable diseases. A surveillance report form will then be sent to the reporting agency to secure additional information. These diseases will be further reported to the Epidemiology Control Office at the Centers for Disease Control. They will evaluate and aggregate data from all states and publish the information in the *Morbidity and Mortality Weekly Report* which will be disseminated back to physicians throughout the State.

The *Blue Sheet* titled "Instructions for Reporting of Communicable Disease to the Arkansas Department of Health" has been amended to include the pneumoconioses. In addition, the four diseases listed as voluntarily reported were transferred to the reportable category. These were: AIDS (Acquired Immune Deficiency Syndrome), Kawasaki disease, Meningitis (Hemophilus influenza type B), and TSS (Toxic Shock Syndrome).

The usual disease rates occurred for most reported diseases in 1984: Hepatitis 364 cases, Meningitis 76 cases, Salmonella 308 cases, Shigella 49 cases and Giardiasis 121 cases. Rocky Mountain Spotted Fever cases were down (30 cases in 1984 as compared to 40 cases in 1983). Tularemia incidence was up again in 1984 with 89 reported cases. Arkansas also reported one case of AIDS for the year.

In August, the Arkansas Department of Health was notified of a measles outbreak in Louisiana. This outbreak was directly linked to a case in North Little Rock, Arkansas. This child, the index case, was directly responsible for 16 cases of measles in Arkansas and Louisiana. The source of the index case could not be traced. Six of the eight cases in Arkansas were under 15 months of age and were, thus, unpreventable.

Venereal Disease

Reported cases of venereal disease increased in Arkansas during 1984. There were 390 cases of early syphilis, which represents an increase of 66 cases, or 20.3 percent. Reported cases of gonorrhea totaled 10,298, a 5.9 percent increase from 1983. Rapid epidemiologic follow-up was provided for each of the early syphilis patients, 386 gonococcal pelvic inflammatory patients, and 47 percent of the public uncomplicated gonorrhea patients.

Nine patients with penicillin-resistant gonorrhea were reported in 1984, compared to five in 1983. Three of the patients reported extended travel to foreign countries and a recent return to Arkansas. Epidemiologic activities performed on these cases resulted in examination of 44 individuals. Thirteen individuals were brought to treatment for gonorrhea, 21 individuals were epidemiologically treated, one person was determined not infected, and nine individuals were determined to have received previous adequate treatment for penicillin sensitive gonorrhea. The last case of penicillin-resistant gonorrhea was reported on March 19, 1984.

Home Health Program

The primary goal of the Home Health Program is to provide nursing and therapeutic services to persons essentially homebound due to illness or injury. Services include nursing, physical therapy, speech therapy, medical social services and home health aide.

The Department of Health is Medicare-certified to provide home health services in all counties of the State except Crawford, Franklin, Madison, Pulaski, Sebastian and Washington. The scope of services varies by county due to population, staffing and the availability of other home health agencies. Over 4,900 home health clients were evaluated and/or served by the Arkansas Department of Health during the twelve months ending June 30, 1984.

Staff of the Home Health Program are currently developing and implementing an automated billing/management information system to assist in obtaining statistics and maintaining patient accounts. A significant portion of this system should be operational by Spring of 1985.

Refugee Health Program

During FY 1984 (a 9 month year for the Program), 151 new refugees arrived in Arkansas. The Refugee Health Program screened 116 new arrivals and 6 secondary migrants for a total of 122 health screenings during FY 1984. Out of the 122, 96 were referred for further medical attention, mental health services or case management. Abnormalities found included 51 positive TB skin tests, 38 dental problems, 16 dermatology problems, 2 positive VDRLs and 59 refugees needing 87 immunizations. New arrivals included 58 Vietnamese, 55 Laotians, 18 Polish, 9 Khmer, 4 Czechoslavakians, 3 Iranians, 1 Cuban, 1 Hungarian, 1 Romanian, and 1 Russian.

Emergency Medical Services

During 1984, the Office of Emergency Medical Services assumed responsibility for administering the paramedic National Registry Exam. This makes it easier for Arkansas paramedics to become nationally registered, thus making it easier for them to find employment both in and out of Arkansas. The Office completely revamped the practical certification exam to make it more

realistic, something the instructors have wanted for a long time.

During the year, the Office certified approximately 1,000 EMTs, 50 paramedics, and 15 EMT Instructors. Fifty-six percent of the State's ambulance services are licensed as I-B or higher. Ninety-three percent of the ambulance services in Arkansas are now meeting reporting requirements.

The EMS Office coordinated efforts to provide ambulance service to the City of Little Rock when the largest EMS provider in the State suddenly ceased operation. This included EMS personnel helping on ambulances and with communications, as well as providing equipment. The Office also implemented an automated system for storage and retrieval of information on ambulance services, registered EMS vehicles, and certified EMTs.

In Spring 1984, the EMS Office sponsored a course in Advanced Trauma Life support for ten rural physicians. This course was provided through a contract with the Arkansas Committee on Trauma of the American College of Surgeons. This is the third course of this kind sponsored by the Department. We hope to sponsor at least one course per year.

Tuberculosis Program

The computerization of tuberculin skin test data on 31,421 nursing home residents is now complete. We are able to assess the magnitude of the problem of tuberculosis among elderly residents of nursing homes. A number of other experts in the field of tuberculosis have seen a preliminary analysis of the findings and have agreed that similar data must be collected in other states to assess the magnitude of the problem elsewhere. Older persons have a greater problem with tuberculosis than they had earlier in life and its spread around nursing homes constituted a definite "hole" in our defenses against this age-old disease.

Dr. Stead, the Program Director has amassed data from the nursing homes in Arkansas:

Table 1 reflects the number of residents, then gives tuberculosis data on those residents 65 years old and over.

Table 2 reflects the tuberculin testing of residents 65 and over.

Table 3 reflects the TB risk vs. tuberculin status (those who received drugs vs. no drug therapy).

TABLE 1
TUBERCULIN DATA IN NURSING HOME RESIDENTS

	Number	%
Total residents	31,421	
65 years	26,970	85.8
Old TB or previous positive	673	2.6
Not tested	660	2.5
Dual testing	15,025	65.0
Boosted	619	4.1
Retested for conversion	9,937	65.0

TABLE 2
TUBERCULIN TESTING OF NURSING HOME RESIDENTS
65 YEARS = 26,970

	Number	%
Tested 1 month	12,196	47.5
Positive first test	772	6.3
Boosted on second test	242	3.1
Old TB or previous positive (no testing required)	315	2.6
Total reactors	1,329	12.0
Tested 1 month	13,441	52.5
Positive first test	1,740	12.9
Boosted on second test	377	5.3
Old TB or previous positive (no testing required)	358	2.6
Total reactors	2,475	20.8

TABLE 3
TB RISK VERSUS TUBERCULIN IN STATUS NURSING HOME RESIDENTS, 65 YEARS

	RX:Inh.	TB (%)	No RX	TB (%)
Old TB and known reactors	57	1(.2)	616	19(3.1)
First test positive (10mm)	390	0	2,122	50(2.4)
Positive on booster only	87	0	532	10(1.9)
No test done	—		660	12(1.8)
Negative converted	605	1(.2)	757	45(5.9)
Never positive	—		21,144	9(0.04)
Total cases clinical TB		2		145

Immunization Program

The immunization levels of children in Arkansas continue to remain high in 1984. The Im-

munization Program directed its activities toward maintenance of these levels of immunity through the hospital-based maternal education program, annual school assessment, and school audits.

The hospital-based Maternal Education Program is currently being conducted in 71 of the 74 hospitals in Arkansas that have maternity facilities. Approximately 25,000 new mothers were contacted in 1984 by auxiliary members, nursing staff or other hospital personnel, and were provided with record cards and information on immunizations.

The 1983/84 Kindergarten or First Grade and Day Care Assessment was conducted between February and March. Results of this assessment reveal the following rates for these age groups:

1983/84 ASSESSMENT

Antigen (s)	Kindergarten/ or First Grade Percent Immunized	Day Care Percent Immunized
DTP	95%	96%
Polio	95%	96%
Measles	98%	94%
Rubella	98%	94%
Mumps	95%	92%

Validation of school assessment data was completed by May 1 and the following chart reflects the result.

1983-84 VALIDATION

	Prior Criteria* % Complete/Compliance		New Criteria** % Complete/Compliance	
New enterers	97%	98%	70%	71%
Transfer students	91%	91%	73%	74%

*Derived from regulations in effect prior to April, 1983.
**Derived from regulations promulgated April, 1983. (i.e., last OPV must have been administered after the fourth birthday.

Upon analyzing the validation results, it appears many school officials may not have been aware of changes in the regulations that went into effect in April, 1983.

As can be seen in the table, criteria derived from the earlier regulations were well met (98% compliance for new enterers; 91% for transfer students); however when the standards of the new regulations are applied (especially at least one dose of OPV and DTP after the fourth birthday), compliance drops dramatically—to 71% and 74%, respectively. To help correct this problem, the Immunization Program issued a joint communication with the Department of Education to assure that all superintendents and principals were made aware of the new regulations.

The Immunization Program provides vaccine to all local county health units. The following table reflects the doses of vaccine administered by these public health clinics located throughout Arkansas.

	Rubella	Measles	Mumps	Polio	DTP	Td
Total	30,045	29,868	29,868	104,630	113,358	11,928

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DIVISION OF DATA PROCESSING

With close consultation and approval of the state Department of Computer Services, the agency expanded its data processing capabilities. Acquisition of state-of-the-art equipment and development of a long-range plan will allow the agency to automate its reporting and tracking systems within the next few years.

DIVISION OF VITAL RECORDS

General design of an automated vital records/health statistics system has been completed and approved. This system offers non-perishable storage of records and allows quicker response to the public's requests for birth and death certificates. It now takes about 20-30 minutes to hand-search for documents requested by walk-ins and 2-3 weeks to fill written requests. When the new system is fully operational, we expect to be able to find documents for walk-ins in about 5-10 minutes and to fill written requests in about 5 days.

Another advantage of an automated system is better access to statistical data for use in agency planning and in monitoring statewide health trends.

DIVISION OF PERSONNEL

The Division of Personnel implemented a new standard-based performance evaluation system. This system improves the employees awareness of

job performance expectations and, therefore, increases productivity. All five bureaus participated in a review of agency personnel policies and procedures. The bureau representatives reviewed the policies for clarity, feasibility and consistency. Upon completion of the review, the division produced a new personnel manual and employee handbook.



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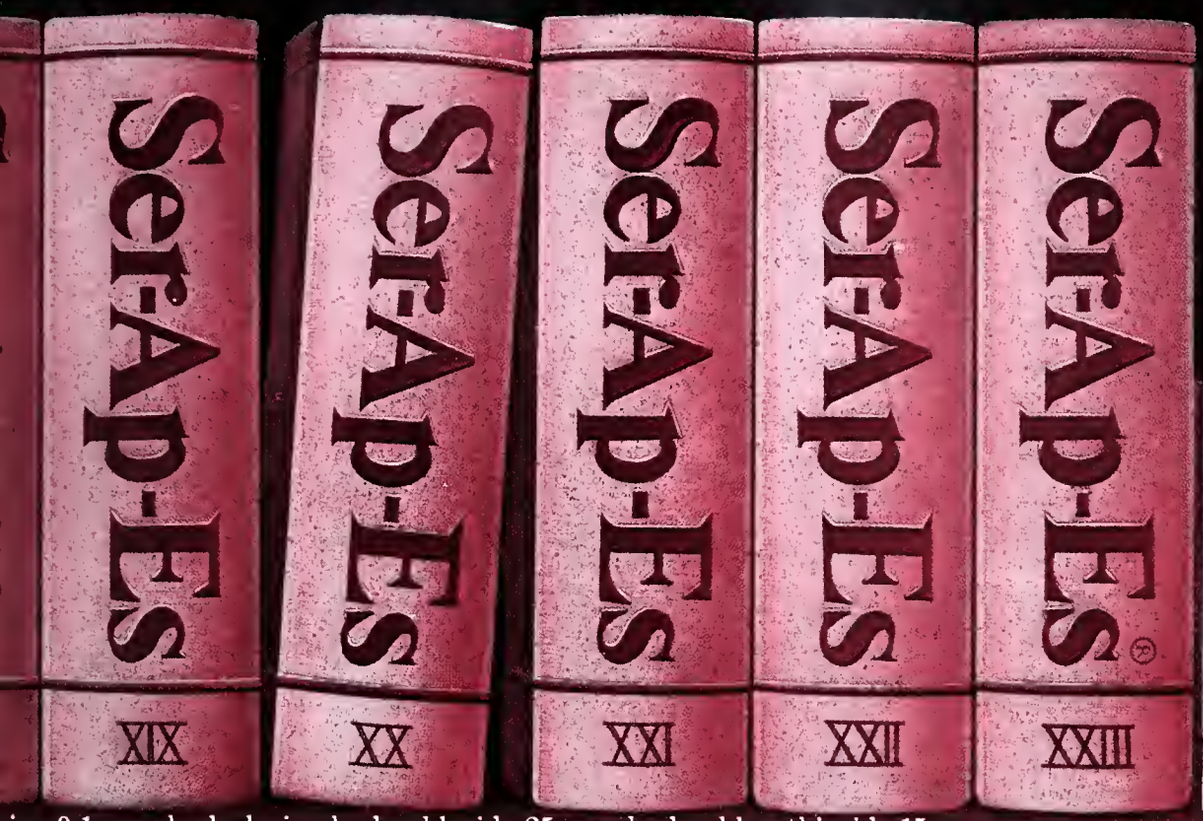
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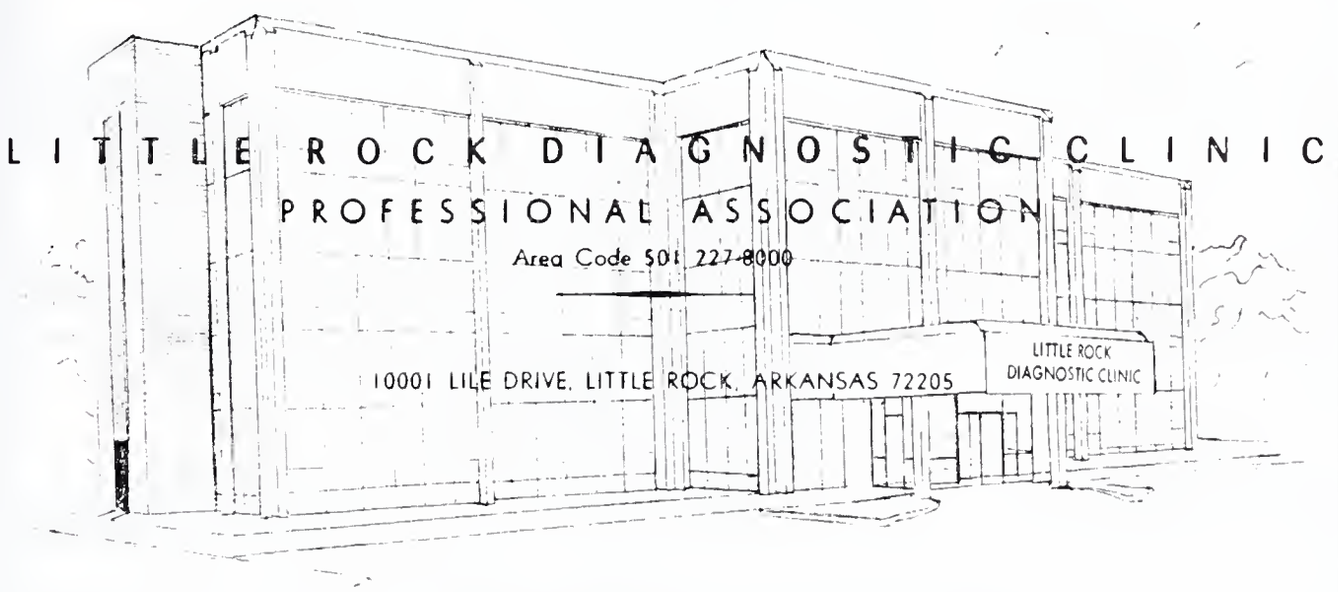
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NEWS — Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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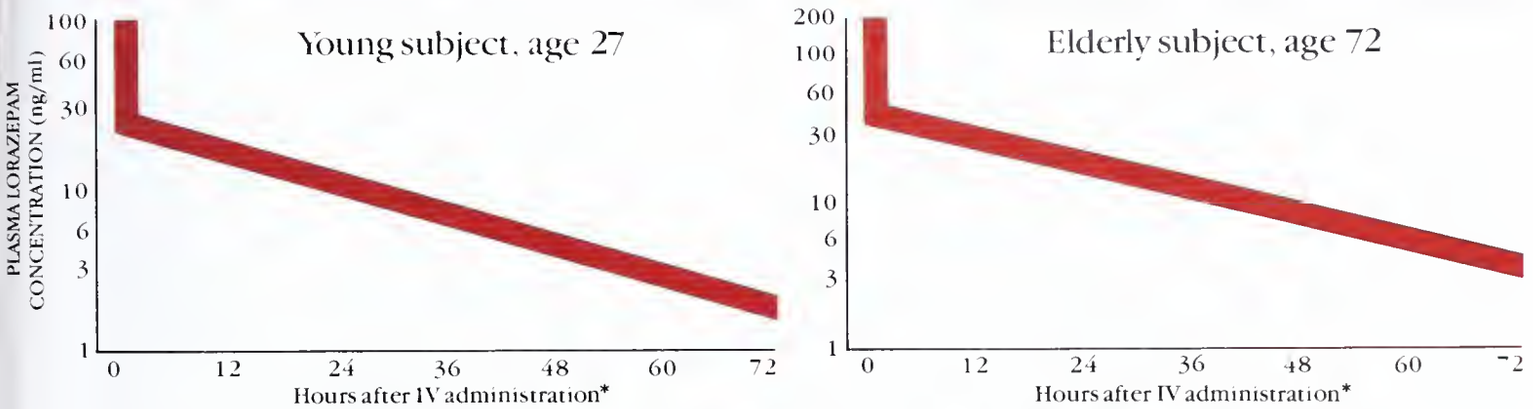
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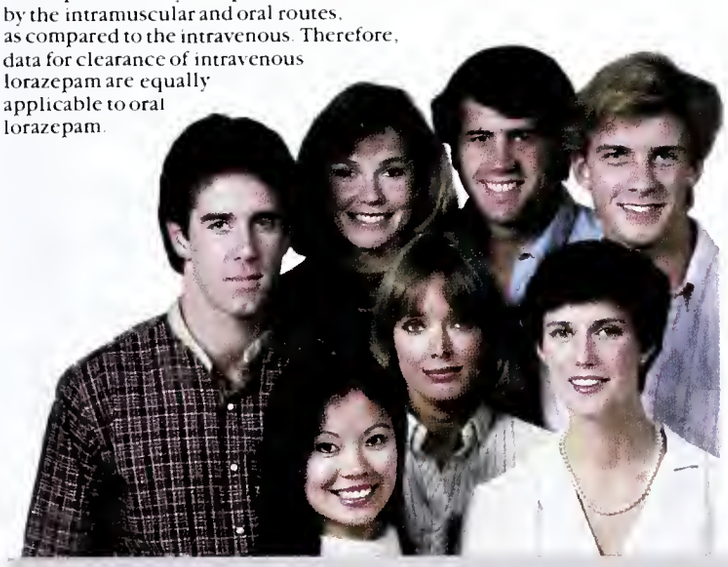
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Among leading benzodiazepines, only Ativan has proof... pharmacokinetics not significantly altered by age.[1]

Representative charts of comparison testing



Lorazepam is nearly 100 percent bioavailable by the intramuscular and oral routes, as compared to the intravenous. Therefore, data for clearance of intravenous lorazepam are equally applicable to oral lorazepam.





- **Clearance not significantly delayed by age, liver or kidney dysfunction**
- **Cumulative sedative effects seldom a problem**
- **Available in 0.5-mg tablets to facilitate the recommended geriatric starting dosage**

1. Greenblatt DJ: Clinical study, pharmacokinetics and bioavailability in the elderly, Ativan® (lorazepam). Data on file, Wyeth Laboratories.

*Fourteen subjects, aged 60 to 84 years, participated in the study. Twelve subjects, aged 19 to 32 years, served as "young controls." Subject dosage was adjusted for body weight and ranged from 1.5 mg to 3.0 mg of lorazepam. Within the study, lorazepam clearance was monitored following IV, IM and oral administration in the elderly group and following IV administration in the control group. The effect of aging on total clearance of lorazepam was relatively small and not statistically significant. Half-life values following the three different routes of administration were essentially identical.

Only Ativan® (lorazepam) IV

Wyeth Laboratories
Philadelphia, PA 19101

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See important information on following page.



The appearance of these tablets is a registered trademark of Wyeth Laboratories

DISTINCTIVE DESIGN 0.5, 1.0 and 2.0 mg

Brief Summary of Prescribing Information.

Indications and Usage: Management of anxiety disorders or short-term relief of symptoms of anxiety or anxiety associated with depressive symptoms. Anxiety or tension associated with stress of everyday life usually does not require treatment with an anxiolytic.

Effectiveness in long-term use, i.e., more than 4 months, has not been assessed by systematic clinical studies. Reassess periodically usefulness of the drug for the individual patient.

Contraindications: Known sensitivity to benzodiazepines or acute narrow-angle glaucoma.

Warnings: Not recommended in primary depressive disorders or psychoses. As with all CNS-acting drugs, warn patients not to operate machinery or motor vehicles, and of diminished tolerance for alcohol and other CNS depressants.

Physical and Psychological Dependence: Withdrawal symptoms like those noted with barbiturates and alcohol have occurred following abrupt discontinuance of benzodiazepines (including convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Addiction-prone individuals, e.g. drug addicts and alcoholics, should be under careful surveillance when on benzodiazepines because of their predisposition to habituation and dependence. Withdrawal symptoms have also been reported following abrupt discontinuance of benzodiazepines taken continuously at therapeutic levels for several months.

Precautions: In depression accompanying anxiety, consider possibility for suicide.

For elderly or debilitated patients, initial daily dosage should not exceed 2mg to avoid oversedation. Terminate dosage gradually since abrupt withdrawal of any antianxiety agent may result in symptoms like those being treated: anxiety, agitation, irritability, tension, insomnia and occasional convulsions. Observe usual precautions with impaired renal or hepatic function. Where gastrointestinal or cardiovascular disorders coexist with anxiety, note that lorazepam has not been shown of significant benefit in treating gastrointestinal or cardiovascular component. Esophageal dilation occurred in rats treated with lorazepam for more than 1 year at 6mg/kg/day. No effect dose was 1.25mg/kg/day (about 6 times maximum human therapeutic dose of 10mg/day). Effect was reversible only when treatment was withdrawn within 2 months of first observation. Clinical significance is unknown; but use of lorazepam for prolonged periods and in geriatrics requires caution and frequent monitoring for symptoms of upper G.I. disease. Safety and effectiveness in children under 12 years have not been established.

ESSENTIAL LABORATORY TESTS: Some patients have developed leukopenia, some have had elevations of LDH. As with other benzodiazepines, periodic blood counts and liver function tests are recommended during long-term therapy.

CLINICALLY SIGNIFICANT DRUG INTERACTIONS: Benzodiazepines produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

CARCINOGENESIS AND MUTAGENESIS: No evidence of carcinogenic potential emerged in rats during an 18-month study. No studies regarding mutagenesis have been performed.

PREGNANCY: Reproductive studies were performed in mice, rats, and 2 strains of rabbits. Occasional anomalies (reduction of tarsals, tibia, metatarsals, malrotated limbs, gastroschisis, malformed skull and microphthalmia) were seen in drug-treated rabbits without relationship to dosage. Although all these anomalies were not present in the concurrent control group, they have been reported to occur randomly in historical controls. At 40mg/kg and higher, there was evidence of fetal resorption and increased fetal loss in rabbits which was not seen at lower doses. Clinical significance of these findings is not known. However, increased risk of congenital malformations associated with use of minor tranquilizers (chlordiazepoxide, diazepam and meprobamate) during first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, use of lorazepam during this period should almost always be avoided. Possibility that a woman of child-bearing potential may be pregnant at institution of therapy should be considered. Advise patients if they become pregnant to communicate with their physician about desirability of discontinuing the drug. In humans, blood levels from umbilical cord blood indicate placental transfer of lorazepam and its glucuronide.

NURSING MOTHERS: It is not known if oral lorazepam is excreted in human milk like other benzodiazepines. As a general rule, nursing should not be undertaken while on a drug since many drugs are excreted in milk.

Adverse Reactions, if they occur, are usually observed at beginning of therapy and generally disappear on continued medication or on decreasing dose. In a sample of about 3,500 anxious patients, most frequent adverse reaction is sedation (15.9%), followed by dizziness (6.9%), weakness (4.2%) and unsteadiness (3.4%). Less frequent are disorientation, depression, nausea, change in appetite, headache, sleep disturbance, agitation, dermatological symptoms, eye function disturbance, various gastrointestinal symptoms and autonomic manifestations. Incidence of sedation and unsteadiness increased with age. Small decreases in blood pressure have been noted but are not clinically significant, probably being related to relief of anxiety.

Transient amnesia or memory impairment has been reported in association with the use of benzodiazepines.

Overdosage: In management of overdosage with any drug, bear in mind multiple agents may have been taken. Manifestations of overdosage include somnolence, confusion and coma. Induce vomiting and/or undertake gastric lavage followed by general supportive care, monitoring vital signs and close observation. Hypotension, though unlikely, usually may be controlled with Levarterenol Bitartrate Injection U.S.P. Usefulness of dialysis has not been determined.

Ativan® (IV) **for** (lorazepam) **Anxiety**

DOSAGE: Individualize for maximum beneficial effects. Increase dose gradually when needed, giving higher evening dose before increasing daytime doses. Anxiety, usually 2-3mg/day given b.i.d. or t.i.d.; dosage may vary from 1 to 10mg/day in divided doses. For elderly or debilitated, initially 1-2mg/day; insomnia due to anxiety or transient situational stress, 2-4mg h.s.

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ARKANSAS MEDICINE TODAY



TB kids on fast track

Children's tuberculosis is being successfully treated in Arkansas with just one month of daily isoniazid and rifampin, followed by eight months of semiweekly treatments, reports Dr. Rosalind S. Abernathy of the University of Arkansas, Little Rock.[1] In addition to halving treatment time, the new TB therapy reduces drug costs by three-fourths. Most symptoms cleared in a few weeks, remarks Dr. Abernathy, and all cultures were negative in two months.[2] This is especially significant because in 1981, 1,681 of the 27,373 new known U.S. TB victims were under 14 years old. And it's in the tradition of Arkansas medicine, which pioneered the adult nine-month TB therapy.[1]

More than a pipe dream

Inhalation patterns may determine why cigarette smokers have higher incidences of carcinoma of the lung, emphysema and heart disease than pipe smokers. Researchers at the University of Arkansas for Medical Sciences and the Little Rock VA Medical Center found that pipe smokers who had never smoked cigarettes inhaled only minimally.[3] This was evidenced by low plasma nicotine concentrations after pipe smoking. By contrast, those who smoked both pipes and cigarettes had high plasma nicotine levels and therefore must have inhaled pipe smoke. Most former cigarette smokers who had switched to pipes had low plasma nicotine, indicating they had stopped inhaling. This suggests that some individuals can indeed reduce the risks of smoking by switching to a pipe. You can determine whether they've stopped inhaling by checking their plasma nicatine or carbaxyhemoglobin.

References: 1. *Medical World News,* Mor 14, 1983, p. 126
2. Abernathy RS, *et al: Pediatrics 72*:801-86, Dec. 1983
3. McCusker K, McNabb E, Bone R: *JAMA 248* 577-578, Aug 6, 1982.

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TODAY: FOR THE PATIENT WITH MIXED DEPRESSION AND ANXIETY

A rational approach, combining
- The standard antidepressant: amitriptyline
- The proven anxiolytic action of Librium® (chlordiazepoxide HCl/Roche) ⓘⓥ

Marked improvement often occurs as early as the first week

Headache, insomnia or GI upsets associated with mixed depression and anxiety often respond quickly

Feeling better, patients feel encouraged to stay the course—therefore, fewer dropouts: $P = .006$ compared to amitriptyline*

Convenient single *h.s.* dosing sufficient in some patients; helps patients with mixed depression and anxiety sleep through the night. Patients should be cautioned about the combined effects of Limbitrol with alcohol and other CNS depressants, and about activities requiring complete mental alertness such as operating machinery or driving a car.

In moderate depression and anxiety

IN PLACE OF LIMBITROL 5–12.5 WRITE: **Limbitrol®**

Each tablet contains 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) ⓘⓥ

IN PLACE OF LIMBITROL 10–25 WRITE: **Limbitrol® DS**

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) ⓘⓥ

Easier to remember... easier to prescribe

*Feighner JP, *et al Psychopharmacology 61* 217-225, Mar 22, 1979

Please see summary of product information on following page.

LIMBITROL® Ⓥ Tranquilizer-Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: **Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude toxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and blotting. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol Tablets, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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OPPORTUNITIES TO PRACTICE MEDICINE IN ARKANSAS

RUSSELLVILLE. Opportunities are presently available in cardiovascular diseases, cardiovascular surgery, neurology and pediatrics. Located 75 miles west of Little Rock, Russellville has a service area of around 72,000 people. The fully accredited hospital has a broad range of services including clinical laboratory and pathology, a 12 bed intensive care unit, diagnostic radiology, nuclear medicine, physical therapy, and many others. Currently over 16 medical specialties are represented by the medical staff. If needed American Medical International can provide financial assistance to the relocating physician.

SPRINGDALE. Located in northwest Arkansas, Springdale has a population of 27,000 with a primary trade area population of 50,000. Opportunities exist in the fields of anesthesiology, general practice, internal medicine, neurology, oncology, ophthalmology, otorhinolaryngology, pediatrics and plastic surgery. The community physicians are actively supporting the recruiting efforts and are willing to discuss opportunities in Springdale with interested physicians. There is a 205 bed, modern, accredited hospital in Springdale. Excellent housing and office space are also available.

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For additional information, contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

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INDICATIONS AND USAGE: These preparations are indicated for the treatment of infections caused by susceptible strains of designated microorganisms as follows: Respiratory Tract Infections (e.g., tonsillitis, pharyngitis, and lobar pneumonia) due to *S. pneumoniae* (formerly *D. pneumoniae*) and group A beta-hemolytic streptococci [penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever; Velosef (Cephradine, Squibb) is generally effective in the eradication of streptococci from the nasopharynx; substantial data establishing the efficacy of Velosef in the subsequent prevention of rheumatic fever are not available at present]; Otitis Media due to group A beta-hemolytic streptococci, *H. influenzae,* staphylococci, and *S. pneumoniae*; Skin and Skin Structures Infections due to staphylococci and beta-hemolytic streptococci; Urinary Tract Infections, including prostatitis, due to *E. coli, P. mirabilis, Klebsiella* species, and enterococci (*S. faecalis*).

Note: Culture and susceptibility tests should be initiated prior to and during therapy.

CONTRAINDICATIONS: In patients with known hypersensitivity to the cephalosporin group of antibiotics.

WARNINGS: *Use cephalosporin derivatives with great caution in penicillin-sensitive patients since there is clinical and laboratory evidence of partial cross-allergenicity of the two groups of antibiotics; there are instances of reactions to both drug classes (including anaphylaxis after parenteral use).* In persons who have demonstrated some form of allergy, particularly to drugs, use antibiotics, including cephradine, cautiously and only when absolutely necessary.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use. Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro*. Mild cases of colitis may respond to drug discontinuance alone. Manage moderate to severe cases with fluid, electrolyte and protein supplementation as indicated. Oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* when the colitis is severe or is not relieved by drug discontinuance; consider other causes of colitis.

PRECAUTIONS: General: Follow patients carefully to detect any side effects or unusual manifestations of drug idiosyncrasy. If a hypersensitivity reaction occurs, discontinue the drug and treat the patient with the usual agents, e.g., pressor amines, antihistamines, or corticosteroids. Administer cephradine with caution in the presence of markedly impaired renal function. In patients with known or suspected renal impairment, make careful clinical observation and appropriate laboratory studies prior to and during therapy as cephradine accumulates in the serum and tissues. See package insert for information on treatment of patients with impaired renal function. Prescribe cephradine with caution in individuals with a history of gastrointestinal disease, particularly colitis. Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms. Take appropriate measures should superinfection occur during therapy. Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

Information for Patients: Caution diabetic patients that false results may occur with urine glucose tests (see PRECAUTIONS, Drug/Laboratory Test Interactions). Advise the patient to comply with the full course of therapy even if he begins to feel better and to take a missed dose as soon as possible. Tell the patient he may take this medication with food or milk since G.I. upset may be a factor in compliance with the dosage regimen. The patient should report current use of any medicines and should be cautioned not to take other medications unless the physician knows and approves of their use (see PRECAUTIONS, Drug Interactions).

Laboratory Tests: In patients with known or suspected renal impairment, it is advisable to monitor renal function.

Drug Interactions: When administered concurrently, the following drugs may interact with cephalosporins:

Other antibacterial agents — Bacteriostats may interfere with the bactericidal action of cephalosporins in acute infection; other agents, e.g., aminoglycosides, colistin, polymyxins, vancomycin, may increase the possibility of nephrotoxicity.

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Drug/Laboratory Test Interactions: After treatment with cephradine, a false-positive reaction for glucose in the urine may occur with Benedict's solution, Fehling's solution, or with Clinitest® tablets, but not with enzyme-based tests such as Clinistix® and Tes-Tape®. False-positive Coombs test results may occur in newborns whose mothers received a cephalosporin prior to delivery. Cephalosporins have been reported to cause false-positive reactions in tests for urinary proteins which use sulfosalicylic acid, false elevations of urinary 17-ketosteroid values, and prolonged prothrombin times.

Carcinogenesis, Mutagenesis: Long-term studies in animals have not been performed to evaluate carcinogenic potential or mutagenesis.

Pregnancy Category B: Reproduction studies have been performed in mice and rats at doses up to 4 times the maximum indicated human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cephradine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

Nursing Mothers: Since cephradine is excreted in breast milk during lactation, exercise caution when administering cephradine to a nursing woman.

Pediatric Use: Adequate information is unavailable on the efficacy of b.i.d. regimens in children under nine months of age.

ADVERSE REACTIONS: Untoward reactions are limited essentially to G.I. disturbances and, on occasion, to hypersensitivity phenomena. The latter are more likely to occur in persons who have previously demonstrated hypersensitivity and those with a history of allergy, asthma, hay fever, or urticaria.

The following adverse reactions have been reported following use of cephradine: G.I. — Symptoms of pseudomembranous colitis can appear during antibiotic therapy; nausea and vomiting have been reported rarely. Skin and Hypersensitivity Reactions — mild urticaria or skin rash, pruritus, joint pains. Hematologic — mild transient eosinophilia, leukopenia and neutropenia. Liver — transient mild rise of SGOT, SGPT, and total bilirubin with no evidence of hepatocellular damage. Renal — transitory rises in BUN have been observed in some patients treated with cephalosporins; their frequency increases in patients over 50 years old. In adults for whom serum creatinine determinations were performed, the rise in BUN was not accompanied by a rise in serum creatinine. Others — dizziness, tightness in the chest, and candidal vaginitis.

DOSAGE: Adults — For respiratory tract infections (other than lobar pneumonia) and skin and skin structure infections: 250 mg q. 6 h or 500 mg q. 12 h. For lobar pneumonia: 500 mg q. 6 h or 1 g q. 12 h. For uncomplicated urinary tract infections: 500 mg q. 12 h; for more serious UTI, including prostatitis, 500 mg q. 6 h or 1 g q. 12 h. Severe or chronic infections may require larger doses (up to 1 g q. 6 h). For dosage recommendations in patients with impaired renal function, consult package insert.

Children over 9 months of age — 25 to 50 mg/kg/day in equally divided doses q. 6 or 12 h. For otitis media due to *H. influenzae*: 75 to 100 mg/kg/day in equally divided doses q. 6 or 12 h but not to exceed 4 g/day. Dosage for children should not exceed dosage recommended for adults. There are no adequate data available on efficacy of b.i.d. regimens in children under 9 months of age.

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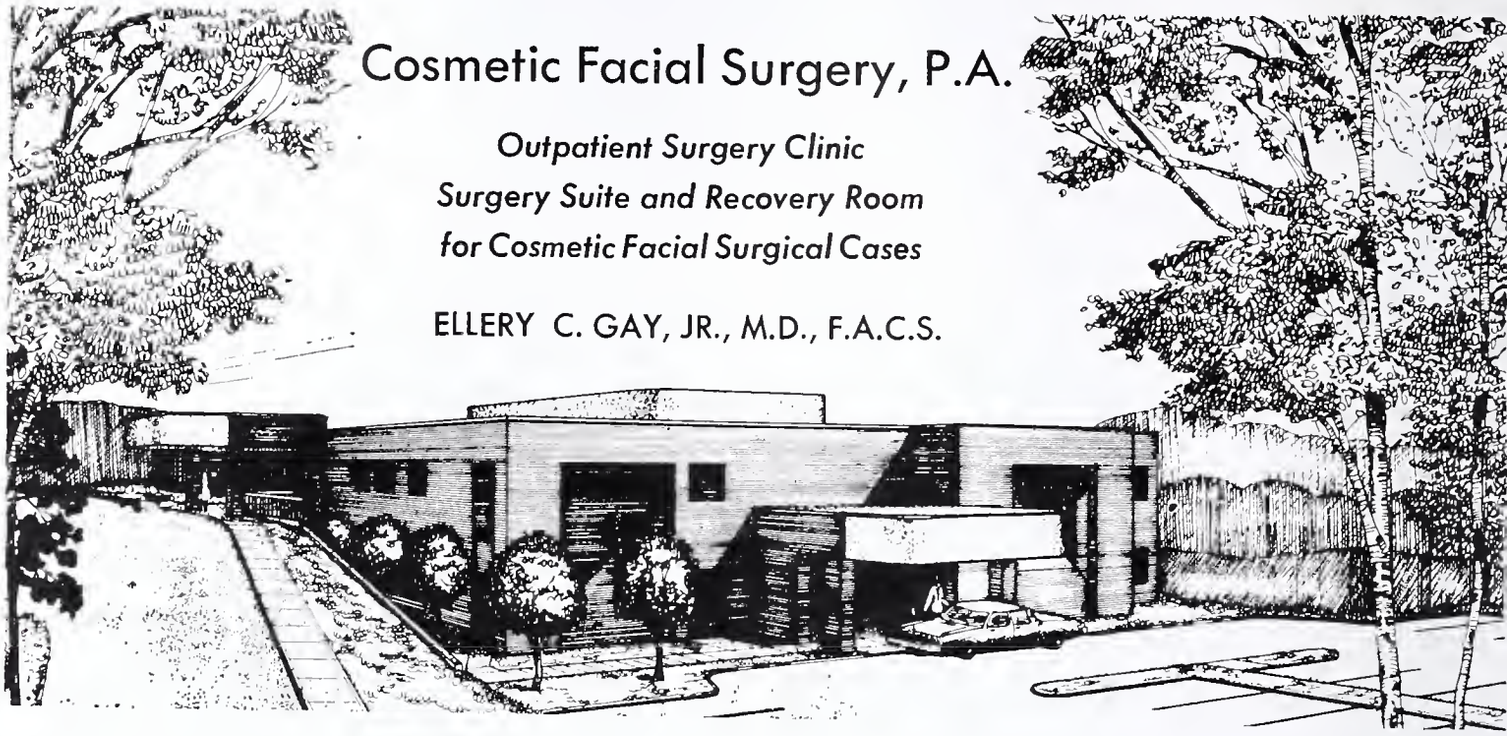
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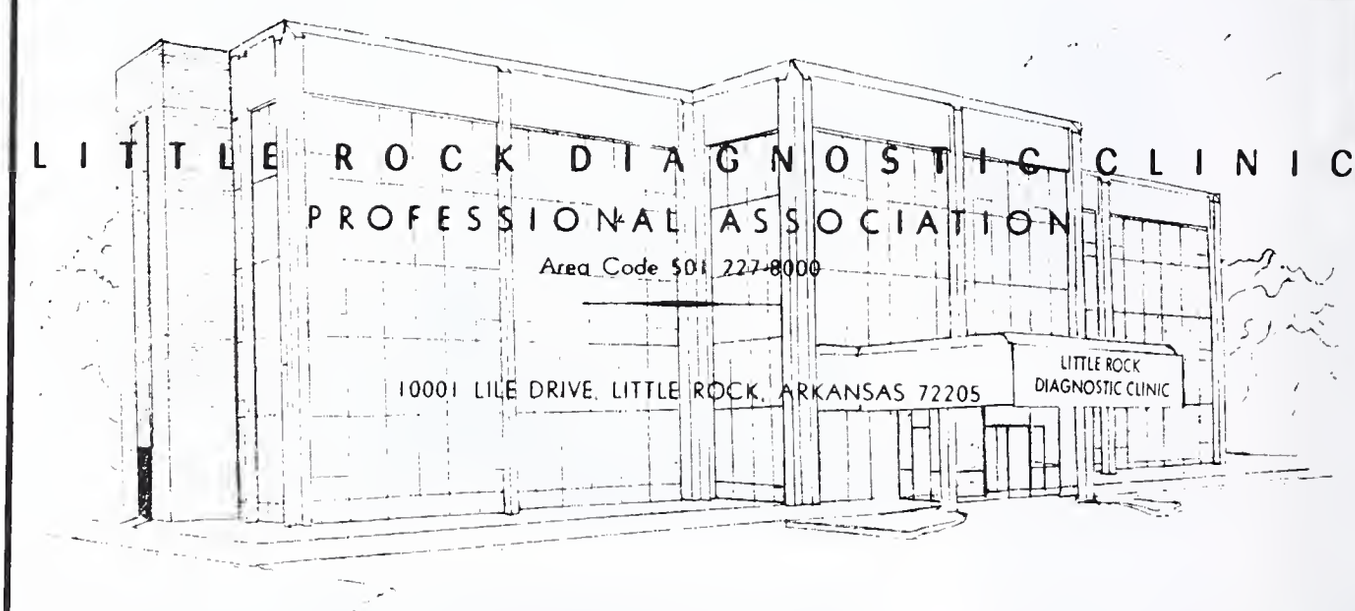


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Please see next page for brief summary of prescribing information.



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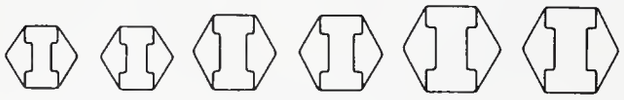
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BRIEF SUMMARY (FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)

INDERAL® (propranolol hydrochloride) Tablets

CONTRAINDICATIONS

INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS

CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely; or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY. The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL, like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA. Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS. Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS

General: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL (propranolol hydrochloride) may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests. Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy. Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia; visual disturbances, hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

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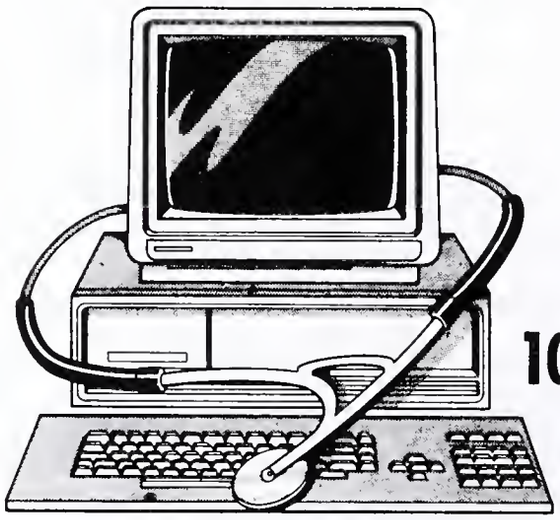
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Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

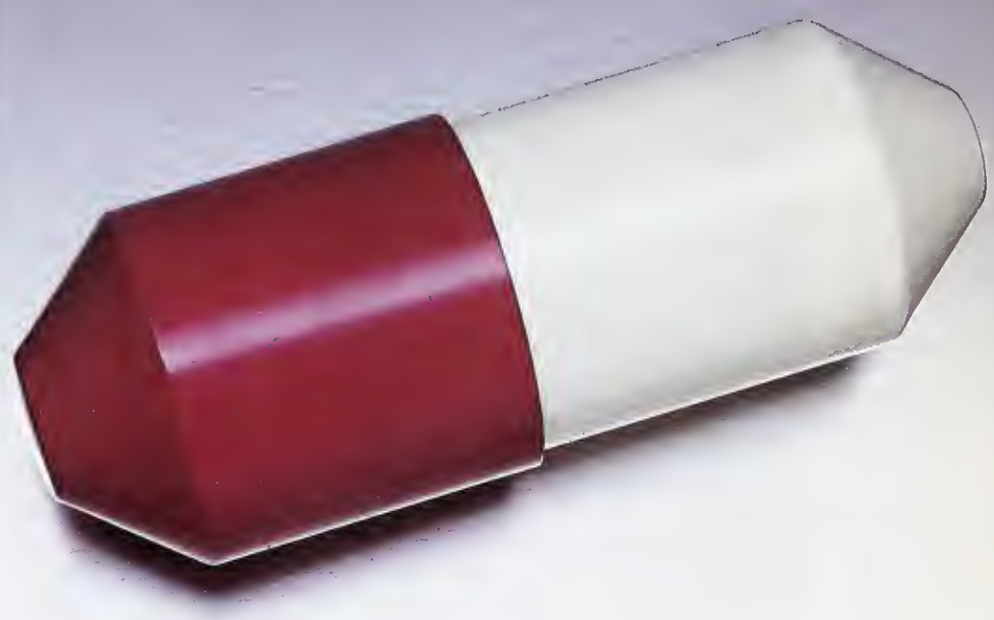
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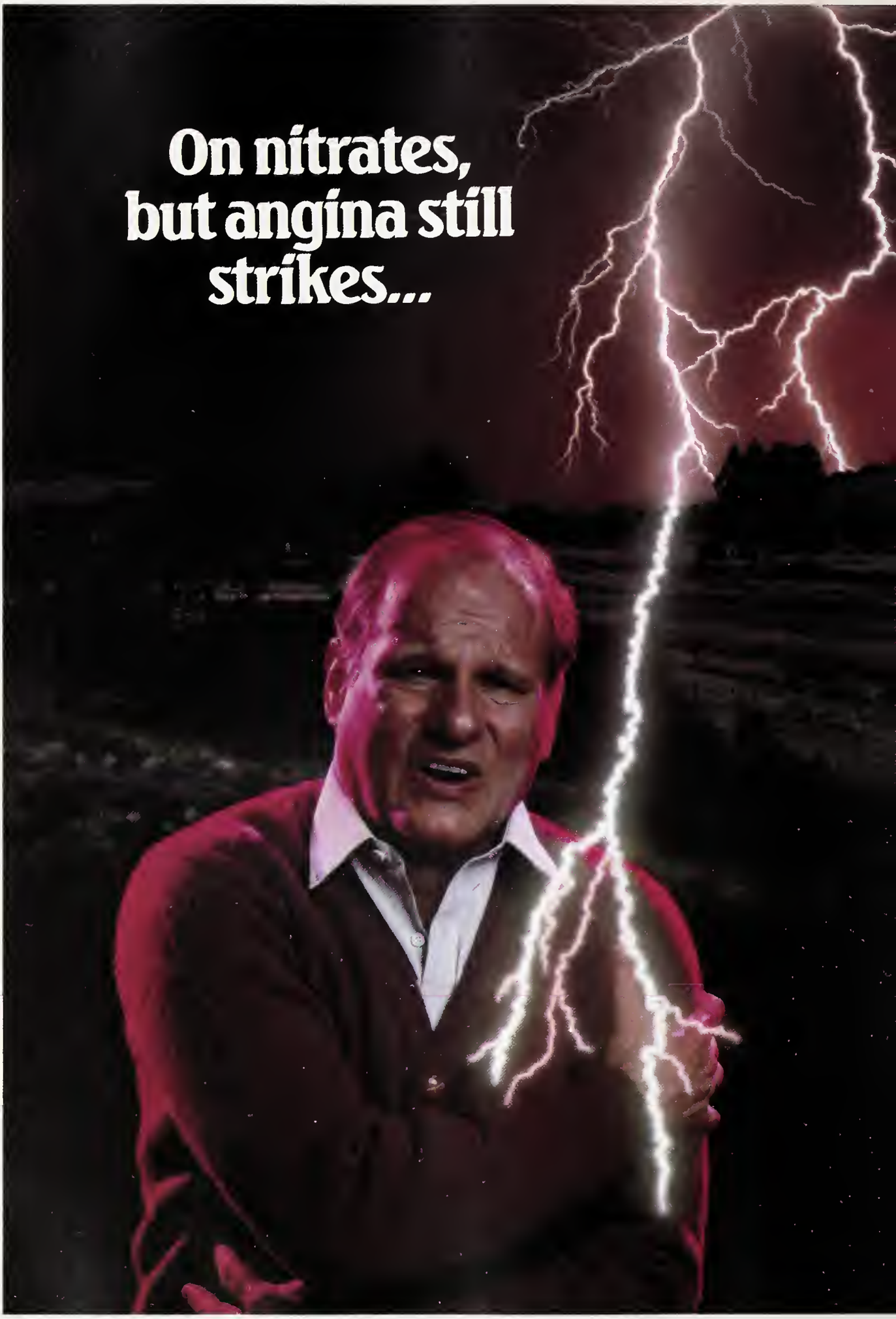


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Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin...for more comprehensive antianginal protection without side effects which may cramp an active life style.



ISOPTIN. Added antianginal protection without beta-blocker side effects.

Please see brief summary on following page.

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(verapamil HCl/Knoll)
80 mg and 120 mg

Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and/or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR<50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

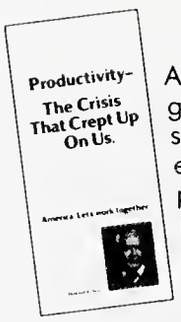
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Coronary Artery Bypass Surgery, An Arkansas Series

C. David Williams, M.D.*

Coronary artery bypass surgery (CABS) is now a well established procedure in the management of patients with symptomatic coronary artery disease. Coronary artery bypass operations have been performed in significant numbers in the United States since the early sixties. In Arkansas this type of surgery was slower to develop, but the number of bypass operations in the state has rapidly increased since 1976.

This report reviews 3,000 consecutive coronary artery bypass operations performed at the Baptist Medical Center in Little Rock from mid-1976 through April 1984. It includes a discussion of the operative mortality and the most common causes of morbidity, and compares the rates experienced here with those of several other large series reported recently.

Before recommending CABS, primary care physicians should become familiar with the indications for surgery as opposed to medical treatment. They should also know the mortality and morbidity associated with this surgery in general and the rates experienced by the particular surgeon or surgical group to whom they are referring patients. It is equally important for a surgeon or surgical group to keep accurate morbidity and mortality statistics for evaluating their practice.

Indications for Surgery

At present there are several anatomic considerations accepted by most centers for performing coronary artery bypass surgery. These are:

1) Left main stenosis greater than 50%
2) Three vessel disease with left ventricular dysfunction
3) Three vessel disease with two of the three following characteristics: ST changes on EKG, hypertension, or severe angina pectoris.

For patients who do not possess these life-threatening conditions, the decision to have surgery may be related to failure in controlling their angina or dissatisfaction with the limitations imposed upon their life style by the atherosclerotic disease. The recent Coronary Artery Surgery Study (CASS) carried on by the National Heart, Lung and Blood Institute showed clearly that surgery improves the quality of life of patients.[1] This improvement is manifested by the relief of chest pain, increased activity, and a reduction in the need for medication. The Veterans Administration Cooperative Study also indicated the advantages of surgery in left main coronary artery disease.[2]

Description of This Study

This study differs from some others in that it is a consecutive case study. The study includes all patients, even those who had a cardiac arrest in the catheterization lab and were alive only because of an intra-aortic balloon pump. Emergencies as well as elective coronary patients are included, mainly because of the difficulty in defining an emergency. Combined valve-coronary artery bypass cases are not included.

There are several trends noted in this series which have not been reported in other studies. One is the increasing age of patients undergoing CABS. The average age of patients in this series has slowly risen from 1976 to 1983. The average age of the whole group was 59.7.

Another trend is the increasing number of women having CABS. The percentage of women having CABS has also risen over the past eight years, reaching 25% in 1983. Most large series in the United States reported only about 15% females. In the past, women were thought to be excluded from atherosclerotic changes because of protection from their hormonal status, but more and more women are now suffering from this disease.

Another trend noted in this series was the tendency to do "complete revascularization," or the grafting of all significant arteries. Studies have shown that patients not having complete revascularization tend to have poor symptomatic

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results. In this series, an average of 3.3 grafts were performed per patient.

Mortality

The overall mortality for this series was 1.2% (37 deaths out of 3,000 patients). Thirty percent of the deaths were those of patients who were having myocardial infarctions acutely or had arrested shortly before coming to the operating room. If these are subtracted, the elective mortality rate drops to 0.9%. Of the 37 patients who died, 25 were elective cases. One was a second CAB, two had chronic renal failure, seven died of cerebrovascular accidents, and two were over 90 years of age. Increasing age is indeed a risk factor in CABS. The average age of patients who died in this series was 64.7 years.

At 1.2%, the mortality rate for this series is comparable to the rate reported by several other large studies. The Texas Heart Institute reported a mortality rate of 3% in a series of 26,404 consecutive cases.[3] In the European Coronary Artery Surgery Study, the mortality was 3.3% in an all male group with stable angina.[4] The Veterans Administration Cooperative Study reported a 5.6% mortality in a series that included all males with stable angina.[2] That series also included only elective cases and excluded left main coronary artery disease. The Mayo Clinic reported a series of 500 patients with a mortality of 2.5%.[5]

Mortality Related To Sex

The mortality rate in this series was 1.6% for females and 1.1% for males. Women with coronary artery disease represent a significantly higher risk when undergoing surgery. This is attributed to such factors as small arteries and a higher incidence of diabetes. In the Texas Heart Institute Study the mortality rate was 5.7% for females and 2.7% for males.[3] A series at the University of Miami had an 8% female mortality and 2% male mortality.[6]

Morbidity

The chief causes of morbidity associated with coronary artery surgery are either cerebrovascular accident (CVA) or perioperative myocardial infarction (POMI). The incidence of these in this series is discussed below.

(a) *Cerebrovascular Accident*

In this series, cerebrovascular accidents occurred in 1.8% of the patients. The average age of patients having CVAs was 67 years, almost eight years above the average of the entire group. Because of the increasing age of patients having coronary artery surgery, CVA will become a more prominent cause of morbidity. Fifty percent of the CVAs in this series were of a mild transient nature, leaving essentially no residual. The other 50% left major residual, which was frequently disabling.

An interesting occurrence in the CVA group was that females were found to have twofold increase in CVA over males. 2.9% of women in this series had a CVA, with half of these being minor episodes. 1.4% of males in the series had CVAs with the same percentage of long-term sequelae in half of the cases.

The most common etiology of CVA associated with coronary artery surgery is atheroembolism from the ascending aorta. Tightly stenotic intracerebral vessels and carotid arteries are also causes of CVA. Patients with a history of transient ischemic attacks should be worked up and treated for this prior to coronary artery surgery, if at all possible. Studies here and in other areas have shown that the stroke rate is increased by performing concomitant carotid and coronary artery surgery.

(b) *Perioperative Myocardial Infarction*

The other main cause of morbidity associated with CABs is the perioperative myocardial infarction (POMI). POMI refers to significant damage to the myocardium occurring during coronary artery bypass surgery. The POMI rate is one of the best indicators of quality coronary surgery. If a surgical group is having a high POMI rate, it may indicate poor selection of vessels, poor ability to protect the mycardium, and/or poor ability to perform a graft technically.

Many feel that the POMI rate has been reduced by using the potassium cardioplegia technique. This was used on most of the patients in this series. The overall POMI rate for this series was 2.3%. The rate was 2% for males and 3% for females, which again indicates that females are at a higher risk when undergoing coronary artery surgery. This series had some of the lower POMI rates in the early years, probably due to the fact that in the later years older patients with more diseased vessels were being accepted for surgery.

The method for diagnosing POMI varies among surgical groups. Some rely only on new Q-wave formation for diagnosis of POMI. The electrocardiogram (EKG) alone is not considered to be a sensitive enough indicator. The serum glutamic-oxaloacetic transaminase (SGOT) is

used as a screening technique because it shows less variability than the creatine phosphokinase (CPK) and is also a less expensive test. If the SGOT is elevated above 100, the creatine phosphokinase-myocardial band fraction is checked and if this greater than 30 units, a POMI is diagnosed. EKGs are also serially evaluated and if new significant Q-waves appear, this is considered diagnostic of POMI as well. ST and T wave changes are not diagnostic and may range greatly with no significant enzyme changes. One of the advantages of using enzyme studies over EKG alone is that one can pick up generalized myocardial damage without a specific localized area of damage. Diffuse endocardial damage has become less of a problem since the revival of the potassium cardioplegia technique.

Reoperative Coronary Surgery

Because of the large number of patients who have had coronary artery surgery, an increasing number will be candidates for reoperative coronary surgery. At the Baptist Medical Center, 114 reoperative cases were done from January 1977 through March 1984. The patients ranged in age from 38 to 81 years of age with a mean age of 59.3 years. Eighty percent of the patients were males. There was a mean of three grafts per patient. The mortality rate for this group was 3.5%.

Summary

3,000 consecutive cases of coronary artery bypass surgery are reported here. The mortality rate for this series was 1.2%. The perioperative cerebrovascular accident rate was 1.8%. The perioperative myocardial infarction rate was 2.3%. The mortality rate was 1.1% for males and 1.6% for females. The rates experienced here compare favorably with those reported elsewhere in the country.

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Food Allergy — A New Science

James C. Breneman, M.D.*

DEFINITION

A form of ingestant intolerance that involves immune mechanisms in the creation of dysnutrition. The dysnutrition thus created may be manifest as:

1. Dyspepsia
2. Malabsorption
3. Faulty Assimilation
4. Faulty Utilization and/or
5. Faulty Disposition of the Ingestant

In the patient, these manifestations may be obvious or they may be hidden (occult) and they may be immediate (within minutes) or delayed (chronic) and/or cumulative.

The ingestants may be nutrient foods, vitamins, minerals, drugs, toxins, chemicals, "inert" materials, and/or living parasites.

INTRODUCTION

Diet related problems in the United States are no longer those of deficiency. They are, instead, usually those of dietary excesses or food intolerance. In this land of plenty, there is little question of the availability of adequate calories, minerals, vitamins, nor of the three basic essentials, i.e. fat, protein, and carbohydrate. This dys-nutrition then comes largely from over-availability.

Nutrition has often been an arithmetic exercise wherein a dietician puts certain numbers of calories in a long column and adds them up in order to arrive at an "adequate diet" for the problem at hand. These calculations are based, not on metabolic, but on calorimetric evaluation. There has been little regard for the bioavailability or bio-utilization of those nutrients. "What happens to the food?" "What does it do to the host?" "What happens to the residue?" "How much of the various nutrients are absorbed and assimilated?" "After it is assimilated, is it in proper balance?" "Does the residue deposit in blood vessel walls and create chronic vascular disease?" or "Does it stimulate the immune system to produce hyperimmune disorders?", etc.

No longer can diet or nutritional therapy be a numerical exercise nor "advice to the adipose."

Food allergy, food intolerance, or food idiosyncracy are the terms applied to various forms of dys-nutrition, but the terminology is of secondary importance since the patient suffers just as much regardless of the label used. The body's entire nutritional status depends upon:

1. The bowel's ability to absorb nutritive materials from its lumen and,
2. The body's ability to utilize those absorbed materials.

Both factors are vitally affected by, and involved in, food allergy.

INCIDENCE

The incidence of food allergy is much higher than most realize. Allergic disease, both inhalant and ingestant, affects 25% of the population with about half of the allergens being food.[10] In adults, the incidence of inhalant allergies exceeds that of food allergy, while in children, the opposite is true. Puberty appears to be the time when the incidence lines cross.[1] In the United States, 1) food allergy concerns a population of 30 million individuals. In addition, 2) intolerance to lactose is estimated to involve another 33 million in the U. S.[1,11] 3) Gluten intolerance probably affects three to ten million.[12] These three are examples of dysnutrition which produce malabsorption disorders altering the bowel's ability to absorb nutrients.

U. S. INGESTANT INTOLERANCE

Food Allergy	30 Million +
Lactose Intolerance	33 Million
Gluten Intolerance	3 Million
Drug Reaction	22 Million
Others	15 Million +/—
Total 50% of U. S.	103 Million

FROM: Breneman, J. C.: Basics of Food Allergy. Chas. C. Thomas, Springfield, IL 1984.

TYPES OF FOOD ALLERGY REACTIONS[1]

Two types of food allergy are recognized. They are called *immediate* (obvious) and *delayed* (occult). The immediate type of food allergy constitutes about 5%, and the delayed type 95%, of all food allergies. The *immediate* reactions are also termed obvious because the manifestations are usually evident within a short time after the ingestion of the food allergen. As a result, these have long been acknowledged as food allergic disorders. As an example, within minutes of the ingestion of shrimp in a shrimp allergic patient, hives, asthma, rhinorrhea, migraine headache, enuresis and other evidences of immediate hypersensitivity involving IgE* become evident.

*9880 E. Michigan, Galesburg, Michigan 49053.

*Immunoglobulin Type E.

Other examples include tomato rash, strawberry itch, milk asthma and chocolate rhinorrhea. Immediate food allergy is identical to inhalant allergy, i.e. hay fever, and asthma, except for the antigen (pollen, dust, etc.) and the exposed mucosal surface (respiratory tract).

The *delayed* or occult type of food allergy is less apparent, less dramatic, more chronic and more difficult to diagnose. It involves various forms of malabsorption disease, inflammatory responses, enzymatic deficiencies, immune aberrancies and probably several other different mechanisms. It probably also involves all 4 Gell-Coombs reactions (Type I, II, III, IV), and the new Type V reaction, called Remote Mediator Release, has been recently described wherein the antigen-antibody reaction at one site releases systemically active mediators, which in turn circulate to a remote shock tissue to produce symptoms.

Immediate and Delayed food allergy reactions can be differentiated by the following 11 comparisons:

FOOD ALLERGY REACTIONS[1]

Immediate (Obvious)

1. Not quantitative—all or none reaction.
2. Immediate, within one to sixty minutes.
3. IgE mediated.
4. Less common and at times dangerous.
5. Skin test usually positive.
6. Mortality possible.
7. Severity predictable, shock-type reaction.
8. Usually involving one shock organ.
9. Often permanent.
10. May result from prolonged delayed sensitivity.
11. H_1Antihistamine helpful.

Delayed (Occult)

1. Usually dose related.
2. Delayed up to five days.
3. May be partly due to faulty and deficient digestive or absorptive processes plus immune involvement.
4. Very prevalent.
5. Skin test negative or unreliable.
6. Morbidity great, but no mortality.
7. Severity cyclic, but morbidity prevale and chronic.
8. Systemic malaise.
9. Usually diminishes with prolonged avoidance.
10. May be converted to immediate type.
11. H_1Antihistamine usually ineffective.

It is apparent that those diseases long recognized as of food allergy etiology, e.g. tomato rash, strawberry itch, seafood hives, milk asthma and chocolate rhinorrhea, are all immediate or IgE types of food allergic reactions.

The delayed or occult forms have not, until recently, been acknowledged as allergic. This group of little-understood diseases constitutes 95% of food allergy, and as a result has been the object of intensive study, especially during the past decade.

To better understand food allergy, it is helpful to compare *inhalant allergy*, which is well understood and readily recognized, to *ingestant allergy*, which is much more complex and thus less well understood and trails technologically by several decades.

	INHALANT (Pollen, dusts, etc.)	**INGESTANT (food, drugs)**
I. Allergen	Simple and unchanging	Food bolus changing—constantly modified by digestants, succus entericus, bacteria, toxins.
II. Mucosal Surface Contact		
A. Exposure Time	Momentary	Entire bowel transit time—often 3-5 days.
B. Exposed mucosa area	Respiratory	G-I tract
	1. Few square inches in area.	1. 20-25 foot tube (1 sq. mi. of absorbing surface)
	2. Protected by S-IgA*	2. Protected by S-IgA*

*Secretory IgA[2]

	INHALANT (Pollen, dusts, etc.)	INGESTANT (food, drugs)
Immune Mechanism	1. Only IgE (Type I)	1. IgG, IgM, IgE, etc. (all Types-I)
Allergens	2. Ragweed—most prevalent allergen. Total less than 150.	2. Cow's milk is the "ragweed" allergen. Total more than 6,000.
Clinical Location of Manifestation	3. Manifestation only Respiratory	3. Any tissue, organ or system—whole patient affected
Chronography of Reactions	4. Usually immediate reaction	4. Immediate to 5 days
Timing of Symptoms	5. Acute symptoms	5. Acute and chronic diseases produced
Diagnosis	6. Good lab tests extant a. skin tests b. RAST c. IgE	6. Lab tests promising but clinical observation and diet control are primary methods IgG_4, IgD
Treatment	7. Conventional immunotherapy Conventional drug therapy	7. Very complicated—examples: a. Milk—3 foods 1) fat 2) lactose-lactase 3) protein—allergy Rx b. alcohol—absorptive phenomen c. gluten—systemic diseases

DIAGNOSIS

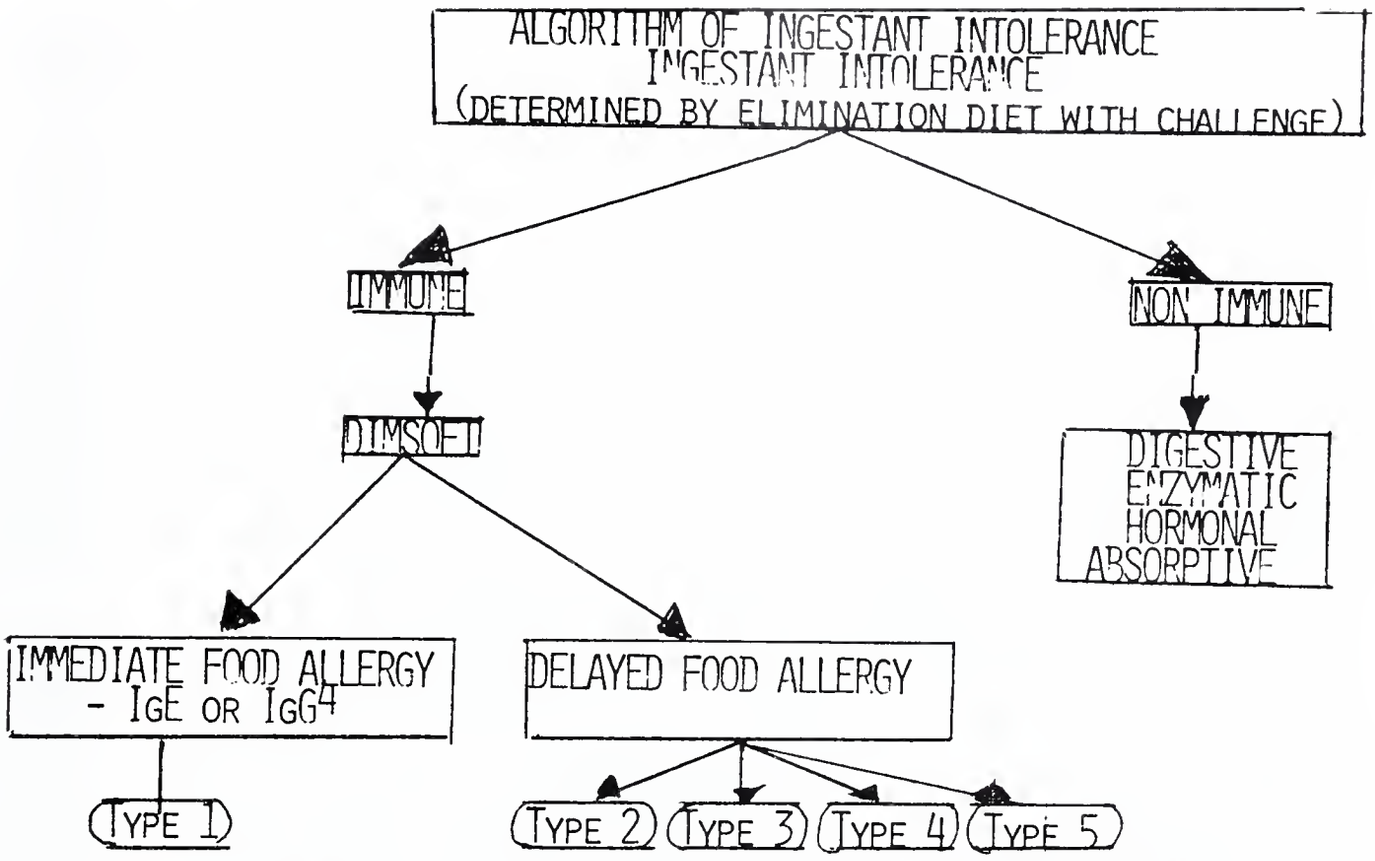
Clinical

The diagnosis of food allergy is primarily a clinical diagnosis. A careful history is necessary, usually consisting of a long sequence of undiagnosed complaints with numerous x-rays and gastrointestinal studies. A psychiatric diagnosis has often been affixed to the frustrated patient.

The first step in confirmation of the food allergy is the use of one or the other of two elimination diets (I or II, copies attached) for at least one week. This is started immediately and continues while other diagnostic tests are being conducted. During the course of this week, the patient is on a very limited selection of foods which usually excludes all foods making up the usual everyday diet of the patient. If food allergy is a problem, the patient is virtually well on the fifth or sixth day. Then pure food challenges are introduced for two days at a time in order to identify the offending foods that were in the usual diet of the patient. Occasionally the Basic Elimination Diet I may contain a food allergen of a specific patient and that individual is no better after one week. The alternative Diet II should then be given for a second week. This will produce the desired improvement in the 2-5% of patients who don't do well on the Elimination Diet I. Food challenges then follow as after Diet 1.

Rarely patients are intolerant of foods in both Basic Elimination Diets I & II. A so-called chemical elemental diet* may be necessary. This diet consists of simple carbohydrate, protein, fat, vitamins and minerals in pure elemental form—molecules too small to be allergenic. This diet is nutritious enough for short term substitution in these rare cases. The chemically defined constituents are (1) crystalline amino acids replacing proteins or derivatives, (2) glucose oligosaccharides for carbohydrates, (3) highly purified safflower oil as a source of essential fatty acids, along with (4) recommended vitamin and mineral components such as to provide a balanced diet in sterile-packaged 300 kcal portions, six of which will provide complete nutritional support for one day.

*Vivonex Standard Diet®, Norwich-Baton Pharmaceutical Co.



FROM: Breneman, J. C.: Basics of Food Allergy. Charles C. Thomas, Springfield, IL 1984.

CHALLENGE

During the challenge feeding, it is important to know how the food allergen reacts in the time frame and the type of symptoms. (See History of Reactions, page 598)

No new foods should be used as challenges while the patient is recovering from the symptoms of the previous allergen in order to avoid confusion as to which of the foods is producing symptoms. All of the regularly eaten foods, medications and drugs should be tested as challenges, often requiring two to three months of deliberate testing. Questionable foods should be retested two or three times and should reproduce the same series of symptoms each time the food is used as a challenge, though often in varying severity. When all the food allergens have been identified, the patient should be instructed on how to avoid the guilty foods. Common food allergens that pervade our food supply include milk, wheat, egg, corn and pork. Special diets frequently have to be prepared to the patient is instructed on how to avoid such ubiquitous foods. It must be remembered that the elimination diet identifies food *intolerances* which may include food allergies, food idiosyncracies, as well as digestive problems. The laboratory is helpful in differentiating which is which. (See Algorithm, opposite page)

LABORATORY

Laboratory tests are available to assist in the diagnosis. Blood eosinophilia and elevated IgE are characteristic findings of Type I allergic disease.* Others include skin tests, and Radio Allergo Sorbent Tests (RAST) for specific food antibodies. Unlike the inhalant allergy, where skin tests are very accurate, food allergy skin tests have generally proven to be quite inaccurate. The RAST test, though it measures primarily the same phenomena, has become a reliable laboratory test for the diagnosis of food allergy of the *immediate type*. Elevated immunoglobulin E usually suggests* allergic disease in which the culprit allergens must be identified. More recently, Immunoglobulin G_4 (IgG_4) and IgD have been associated with specific food allergies of Types III.

No satisfactory lab test is available to specifically diagnose all *delayed food allergy*. If the elimination diet has identified a specific ingestant (food or drug) intolerance, it is possible to determine its allergic mechanism by laboratory methods, which at this time are cumbersome and clinically impractical—but nevertheless, described later.

*Certain parasitic, dermatologic diseases and a rare familial disorder also elevate IgE.

HISTORY OF REACTIONS

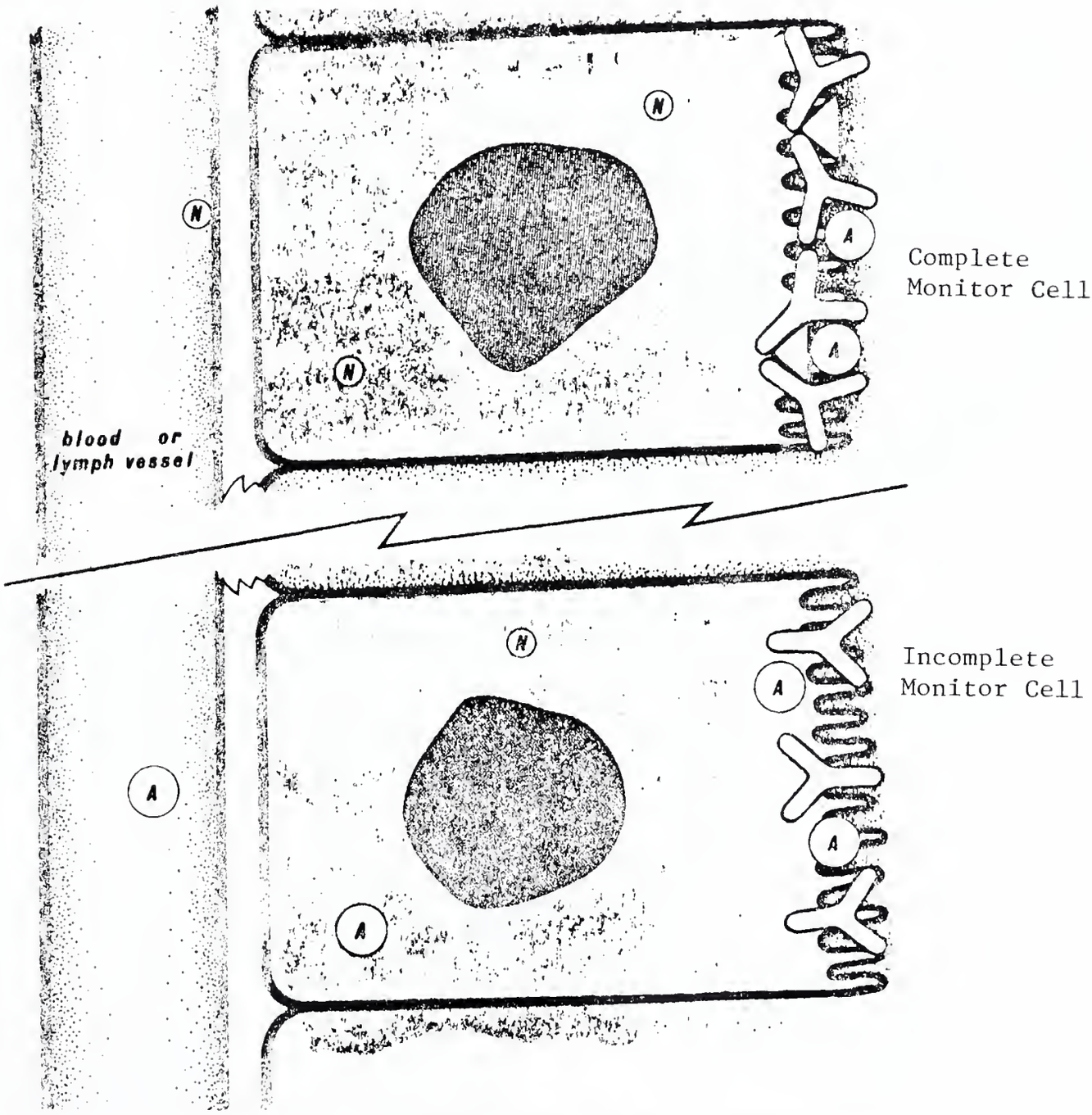
		30 min.	60 min.	120 min.	180 min.	6 hr.	12 hr.	24 hr.	36 hr.	48 hr.	72 hr.	96 hr.
Heartburn		+++	++++	+++	++	+	apple, cinnamon, onion, citrus					
Rhinorrhea		+	++++	+++	++	+	chocolate, onion, milk, pork					
Allergic Headache			+	+++	++++	++	chocolate, meat, peanuts					
Gallbladder Colic		+	+++	++++	+++	+++	egg, pork					
Urticaria		+	+++	+			fish, shrimp, peanuts					
Delayed Urticaria	egg, soy, corn					+++	++++	++++				
Migraine Headache	chocolate, corn, peanuts, nuts, spices					+++	++++	+++				
Enuresis	milk, wheat, egg, corn			+	++	+++	++	+				
Edema	all food allergens					+	++	++++				
Abdominal Cramps	lactose, gluten, peanut, nuts			++	+++	++++	++++	++				
Diarrhea	chocolate, egg, pork					++	+++	++++				
Tension-fatigue	milk, chocolate			+	++	+++	++++	++++				
Skeletal Cramps	pork, beef						+	++	+++	+++	++++	++
Aphthous Stomatitis	apples, citrus fruits						+	++	+++	+++	++++	+++
Joint Pains (atopic arthritis, palindromic)	meats							+	++	+++	++++	+++
Gout	meats						+	+	++	+++	++++	+++

NOTE: + to ++++ indicates the degree of prevalence and severity

MECHANISMS

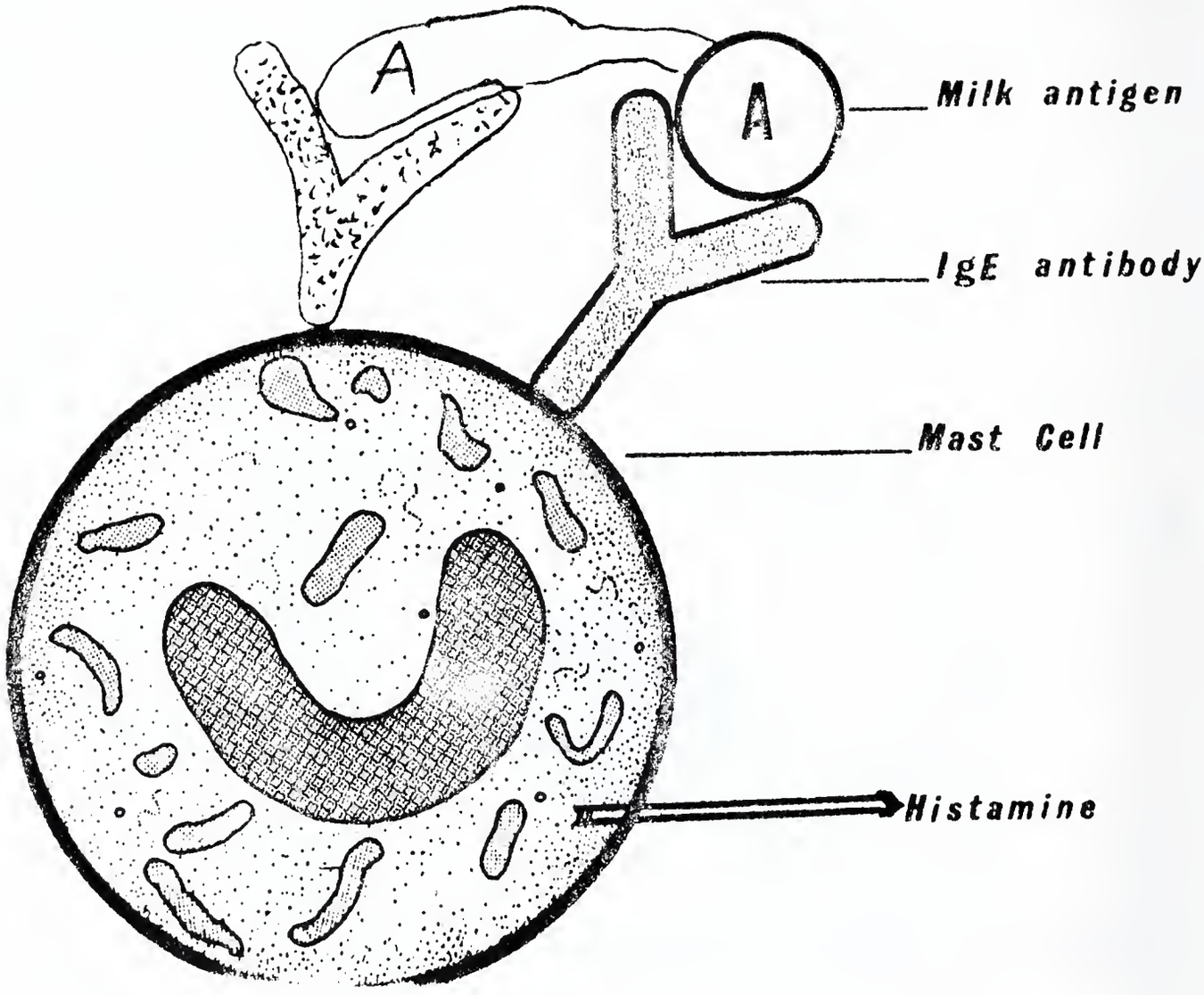
Allergic Types

The mechanism that produces food allergy is complex. The portal of entry for the allergen is the mouth. The food bolus usually requires four to five days to traverse the gastrointestinal tract. In the stomach and upper bowel, the digestive enzymes break down the foods so they can be absorbed. Along the intestinal wall, the lining cells act as monitors to prevent absorption of particles which may be allergenic. Secretory IgA is the antibody system which assists in this monitoring process. A deficiency of this immunoglobulin is very instrumental in enhancing food allergic disease. This deficiency can seriously hamper the monitoring system and allow allergen-sized particles to be absorbed into the circulatory system. The first time this happens, the immune system is exposed to the food allergen. An antibody is produced so that the next time the antigen passes through the monitor cells, an allergic reaction develops. The type of allergic disease produced depends upon where and how this takes place, i.e. which of the Types (I-V).[4,1] (See below) *TYPE I ALLERGIC REACTION* involves the mast cell with two IgE antibody molecules attached. This primed mast cell is stimulated to secrete mediators (histamine) when the specific allergen is caught by the outstretched arms. Type I allergies can often be identified by RAST tests[6]



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TYPE I



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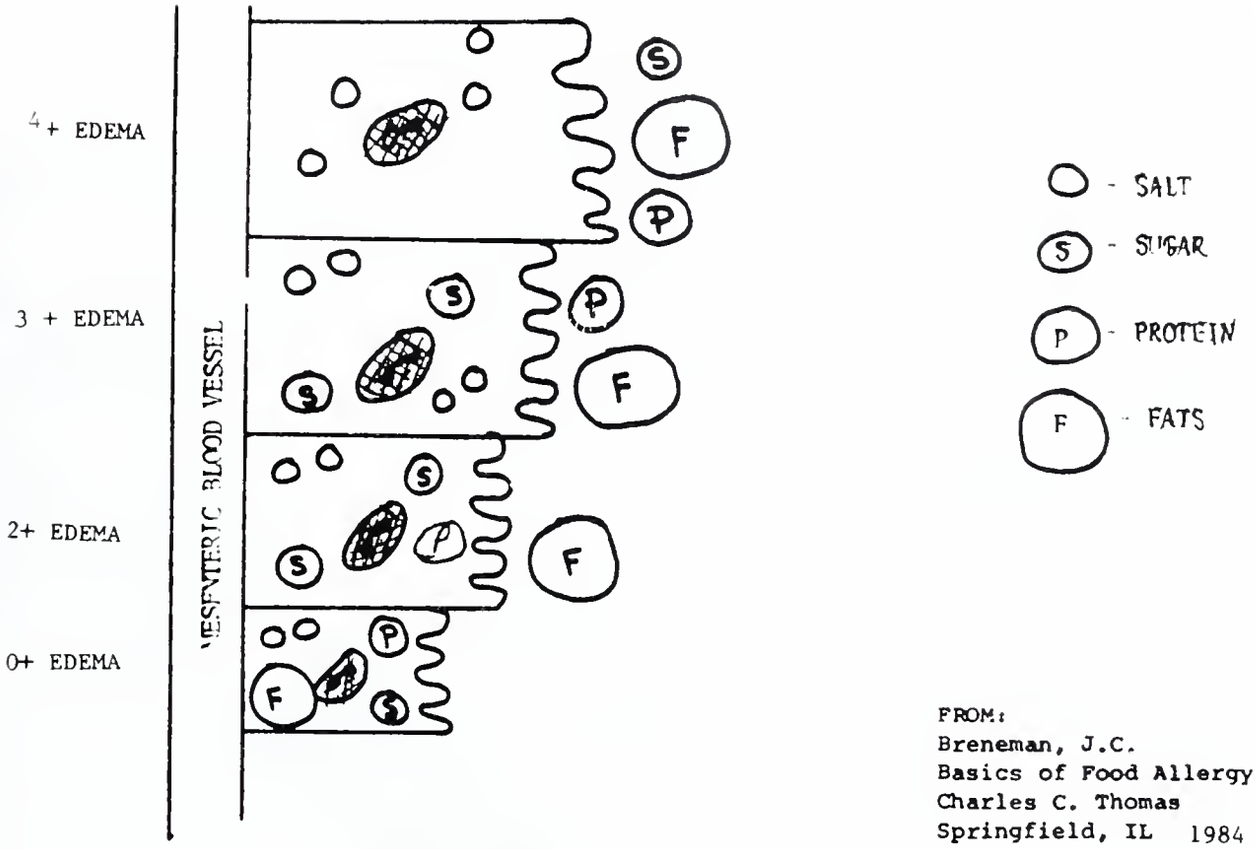
and intradermal skin tests. (See Type I Food Allergy Reaction, above) *TYPE II* allergic mechanism is usually suspected if thrombocytopenic purpura or RBC** hemolysis results from the ingestant. Hemagglutination tests and Coombs tests are helpful in identifying the allergic mechanism if the allergen is known. A likely example of a food allergy producing Type II reaction is favism. The fava bean protein acts as an allergen. It attaches to the membrane of the G-6PD* deficient RBC. The anti-fava antibody fixes to the fava protein; complement is then attached and the RBC is destroyed by the proteolytic enzymes released. The hemaglobin content is released into the systemic circulation: bile pigment is formed and results in the clinical appearance of jaundice.

**RBC—Red Blood Cell.
*G-6PD—Glucose 6—phosphate dehydrogenase.

Most drug allergies are produced by this type of immune mechanism. Sulfa induced thrombocytopenia purpura is produced by the sulfa molecule attaching to the cell membrane of the megakaryocyte. The anti-sulfa antibody attaches to the sulfa radical and, with the addition of complement, the "innocent bystander" megakaryocyte is destroyed. (See page 602)

Type III allergic mechanism is the immune complex phenomenon where the specific antigen (food) is attached to its antibody. They float freely in the body's fluids until they settle out, usually in small vascular networks, either by immune attractions or mechanical adherence. They produce vasculitis, glomerulonephritis, arthritis, myositis, etc., when complement joins with its destructive properties. It is diagnosed by Raji Cell technique which employs the unique

MONITOR CELLS OF SMALL BOWEL



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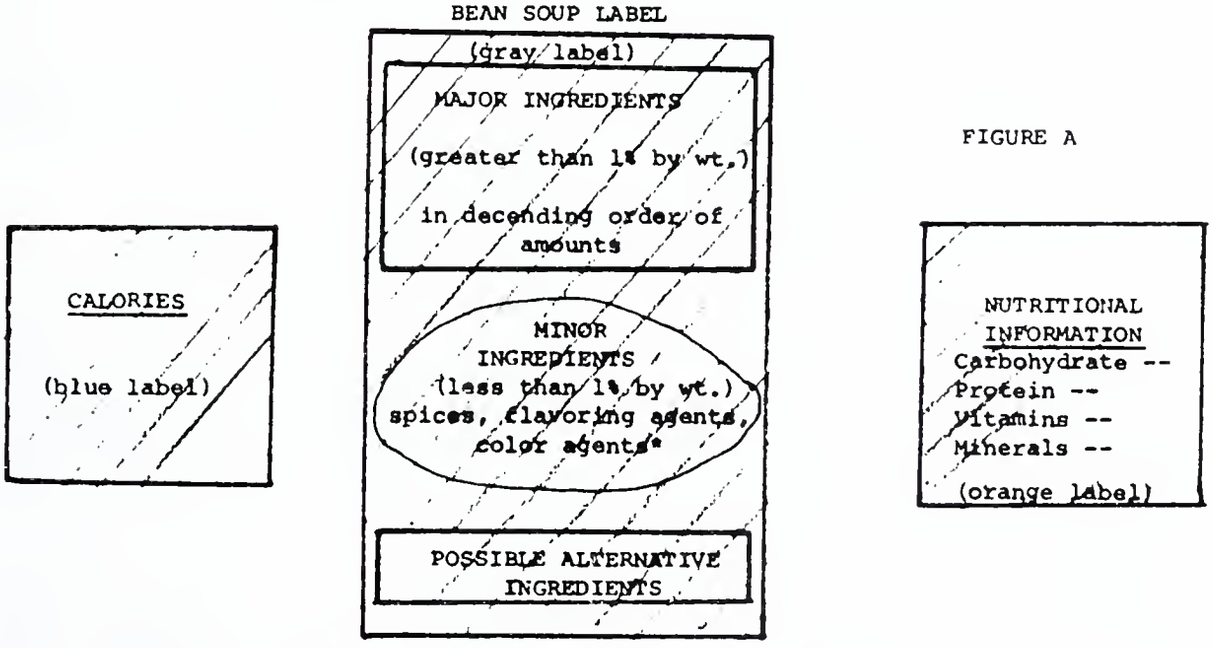
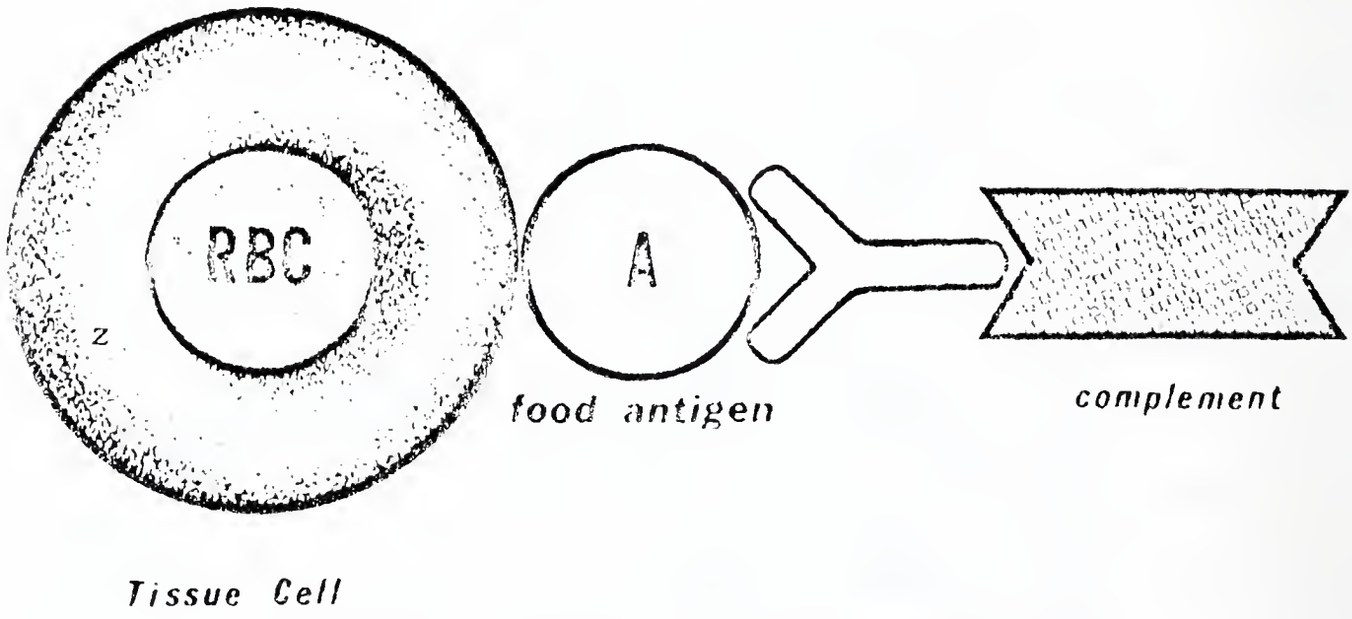


FIGURE A

Boxing of ingredients obviates the argument that "nobody will read a complicated label" in that, only the interested consumer need read the 2 smaller boxes.

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TYPE II



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complex-collecting property of the Raji Cell membrane. Indirect diagnosis can also be made by measurement of complement depletion by the reaction. Polyethelene glycol (PEG) techniques are also helpful.

More recently specific food proteins have been found in circulating immune complexes coupled with IgG_4 and IgE. IgD has been similarly associated with small molecule (e.g. drugs, dyes, etc.) allergy. An example of Type III food allergy is necrotizing colitis caused by cow's milk allergy.*

*see figure, page 603.

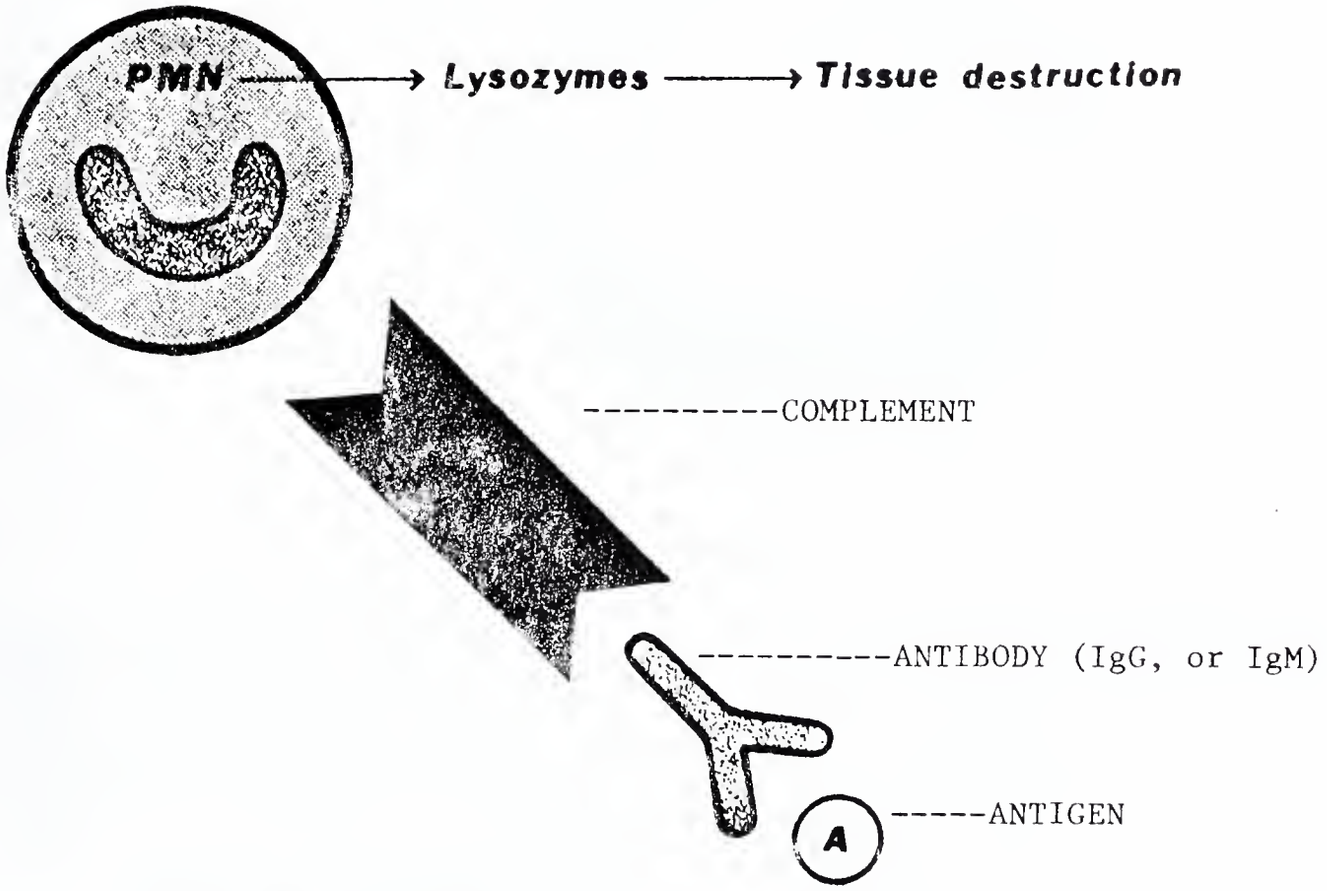
CLASSIFICATION OF FOOD ALLERGIC REACTIONS

Gell-Coombs Type	Disease-Example	Example of Allergen	Mechanism	Lab Tests to Diagnose
I	Hives	Shrimp	IgE Antibody (immediate)	Skin tests, RAST
II	Drug Hemolysis	Quinine	Antibody against Quinine + Protein Carrier	Coombs, hemagglutinin
III	Necrotizing colitis, Gluten Sensitive Enteropathy, Henoch-Schönlein Purpura	Milk Gluten, Subfraction B_1, drugs, sulfa, penicillin	Antigen-antibody complexes causing vasculitis, Arthus's phenomenon, etc.	Raji Cell tests, Complement depletion, delayed skin tests (3-8 hrs.) Specific IgG_4 & IgD complexed.
IV	Possibly Crohn's Disease	Milk	Sensitized lymphocytes	Delayed skin tests 48-96 hours, migration inhibition factor (MIF)
V	Migraine	Chocolate causing Mediator release from bowel	Remote or systemic mediator (RMR, SMR) release	Blood levels or urinary levels of specific mediators

Carcinoid Syndrome	Tumor—Stimulating food antigen	Serotonin from tumor producing vasodilatation, hyperperistalsis
Urticaria pigmentosa	Histamine release in skin from lesions	Histamine-induced diarrhea, headaches, etc.

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TYPE III



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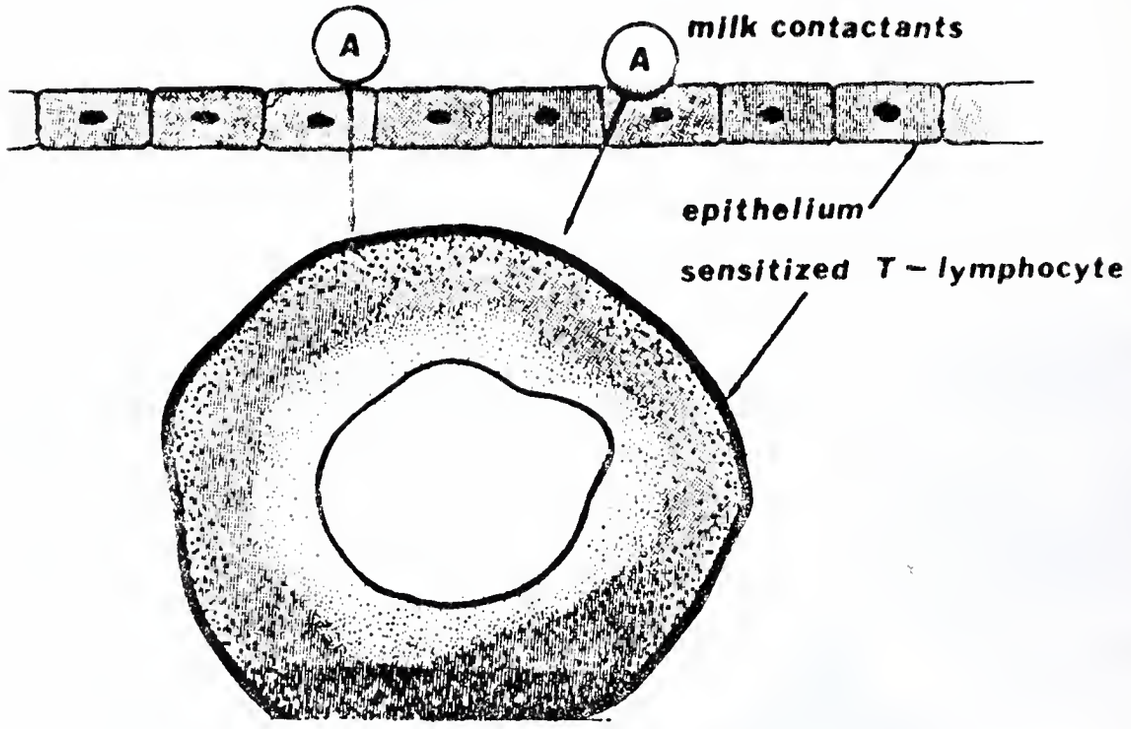
Type IV allergic mechanism is cell mediated immunity (CMI). It is also called delayed immunity (not to be confused with delayed or occult food allergic reactions). It involves lymphocytes that have been previously sensitized to a specific food allergen. When they contact that food allergen in the tissues, they release inflammatory lymphokines which are tissue-destructive. Precise examples of food-allergy-disease of this type are not as yet firm. Crohn's disease is a probable example. This is best diagnosed in the lab by Migration 1 Inhibitor Factor (MIF) determinations and clinically by patch tests and delayed skin tests. (See page 604)

Type V reaction is called a Remote Mediator Release phenomenon.[1] It involves a food allergic reaction in one area (usually the bowel wall) with a systemic release of the mediators (histamine, seretonin or kinins usually) which travel through the vascular circulation to a shock tissue (e.g. nasal, mucosa) to produce symptoms (rhinorrhea). It is diagnosed by measurement of serum or urine increase of histamine (or other mediators) during and following a reaction.

Cromolyn orally is capable of blocking these reactions (of Type I) in the gut. It acts by blocking the release of histamine by the mast cell (even if already primed and with food allergen attached).

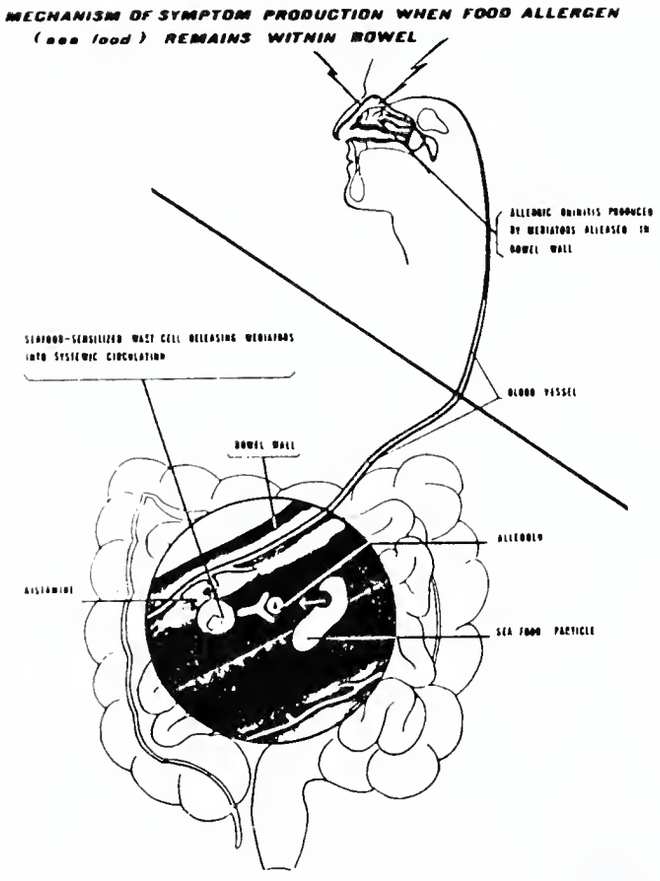
Cromolyn probably exerts another local influ-

TYPE IV



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TYPE V



ence. By blocking the mast cell and preventing its local release of histamine, the surrounding blood vessel walls do not develop increased porosity, which would otherwise allow protein antigen to penetrate into the circulatory system and join with antibodies to produce immune complexes. (Type III)

ABSORPTION MECHANISM

The absorbing bowel wall cells also react to surface irritants and allergens and, like the mucosal lining of the nose's response to contact pollen allergen, will become edematous when food allergens contact them. Various stages of edema alter the efficiency of these absorbing cells. The most severe edema of the intestinal absorbing cells will compromise the nutritional transport to such a degree that only ions will flow back and forth freely from the intestinal lumen and into the systemic circulation. Slightly less edema of these absorbing cells will allow the larger sugar molecules to be selectively transported. The transfer of protein requires a most efficient absorbing cell and so protein is only transabsorbed if the cell is

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almost totally unaffected and unedematous. Lipoproteins and fats can only be absorbed when an efficient absorbing cell is able to make micelles and actively transport the nutrients from the bowel lumen to the lymph or blood vessels of the systemic circulation. Therefore, it is evident that the entire nutrition of the body is dependent upon the degree of edema and its effect upon the efficiency of the absorbing cells; the presence or absence of secretory IgA; deficiencies of enzymes; soaps (bile); and hosts of other variables.

These variables are only a few of those known to exist today. There are undoubtedly many of which we are unaware and in which food allergy plays a minor role. At least two other malabsorption disorders can produce symptoms often confused with food allergy. Lactose and gluten cause specific syndromes and must be recognized as examples of different forms of food intolerances.

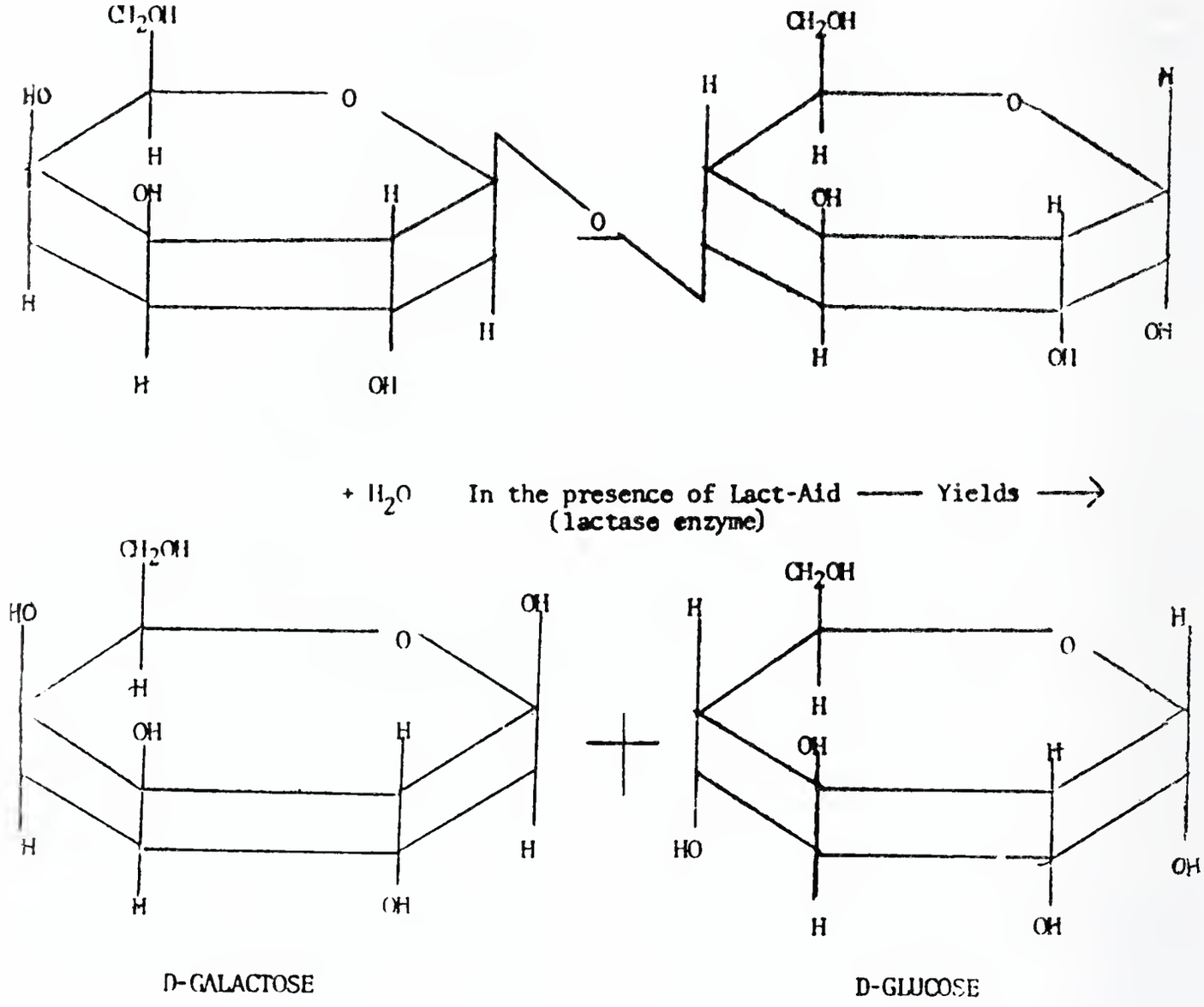
Lactose intolerance is not a food allergic disease. It is a specific enzyme deficiency affecting non-Aryan groups. After the age of 18 months, persons of African, Mongolian and Semetic heredity produce progressively smaller amounts of lactase in the small bowel. If this results in insufficient lactose enzyme to split the ingested amount of lactose (milk, sugar), symptoms of gastroenteritis ensue — namely gas, cramps and diarrhea. Supplemental lactase enzyme corrects the whole syndrome by enzymatically splitting the nonabsorbable disaccharide (lactose) into two monosaccharide molecules which can then be assimilated. (See page 606)

Gluten intolerance[1] produces an interesting complex of symptoms that include encephalopathy, dermopathy and enteropathy produced by allergic reactions to the cereal protein, gluten. The complex allergic reactions include Types I (determined by Specific Antigluten IgE); Types IV (determined by Migration Inhibition Factor (MIF) and probably Type III Immune Complex dermatitis called Dermatitis Herpetiformis and still another reaction in the CNS of as yet unidentified allergic type that produces psychopathies that can be as severe as psychoses.

TREATMENT[1]

1. *Avoidance* is the best treatment of all food allergies. Whenever this is possible, such a goal should be sought. Accurate and complete labeling of ingredients on processed foods would be of benefit. Laws to improve food labeling are pending. (See label suggested by the American College of Allergists, Figure A, page 601)*
2. *Antihistamine* of the H_1 type is helpful in the immediate (obvious) type of food allergy if taken prophylactically. It is useless as treatment for already existing symptoms.
3. *Cortico-steroid* therapy is rarely necessary but its benefits are definite as in most severe allergic diseases.
4. *Cromolyn* is effective in preventing the remote-mediator-release of mediators from the sensitized mast cells of the bowel. Cromolyn also prevents the increased vascular porosity which might allow protein allergens passage through the bowel wall.
5. *Vitamin C*[2,3,7]—Usually food allergy patients have been aware of digestive-assimiliative-dietary problems for many years and have usually followed many fad diets in vain. Vitamin deficiencies have often developed insidiously—the most likely of which is Vitamin C deficiency because the vitamin is not stored and is water soluble. Routine, weekly, I.V. administrations of vitamin C in all such patients are mandatory to achieve the desired results. Oral vitamin C often is irritating to the already upset allergic gut by exaggerating many of the symptoms it should be relieving. Clinically, fewer infections and a sense of well-being are also observed with liberal use of vitamin C intravenously.
6. *Prevention*
 A. Hereditary transmission of allergic disease potential is common. Histo-compatibility (HLA) studies show that certain genetic predilections exist. These predilections are usually able to produce immune diseases by a progression through a combination of succeeding factors. (Combinations of Heredity, Allergy-Immunology, Virus and Environment). Family counseling should play a role.
 B. *Breast is Best*[8] is a new attitude towards breast feeding and is encouraged. The number of children allergic to cow's milk is in inverse proportion to the time fed by breast milk (not exposed to cow's milk). This is true up to the age of 18 months.
 C. *Infant Feeding* should be approached logically. As solid foods are added to the diet, single foods should be "tested" for several

*Presented in testimony before Congressional Food Labeling Committee Hearings.



HYDROLYSIS OF LACTOSE

1. The molecule of lactose is composed of 2 hexoses which are joined by a shared O.
2. Lact-Aid lactase enzyme is added. The O-bond splits, with resultant formation of 2 separate hexoses (simple sugars).
3. Where the rupture occurs, the bonding demands of the 2 carbons result in the attachment of 2 (OH) radicals.

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days to determine any intolerance. This is especially true in children of allergic ancestry.

D. *Viral Infections* seem to be involved in the development of all allergic diseases so children should be immunized against those viral disorders for which satisfactory vaccines are available.

7. Immunotherapy for Type I (IgE) Food Allergy (injectable) has been suggested for Type I food allergy. Theoretically it should be effective but controlled studies are lacking.

 Oral immunotherapy has been advocated recently. After identification of the ingestant allergen, feeding of that ingestant is begun, first, in small amounts and progressing to tolerance amounts.

8. Fasting is sometimes advised for patients "allergic to everything." Under strict supervision 5-7 day fasts remove symptoms. Then challenges are made with individual foods to identify the culprits.

9. Elemental Diets (e.g. Vivonex) are hypoallergenic preparations of basic sugars, Proteins, and fats. They are supplemented with vitamins and minerals and can provide adequate nutrition for several days. After symptoms disappear, regularly eaten foods are added as challenges.

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DIAGNOSTIC DIET
FOR DETERMINATION OF SUSPECTED FOOD ALLERGY

FOR _____ DATE _____

Use this diet for _____ days only, beginning _____ ending _____.

Return for office checkup on _____ even though your symptoms clear up completely.

This diet is not intended to be a weight reduction diet. Food may be eaten in any quantity desired. Weight loss may occur because of reduction of excess fluid in the body.

Eat no foods not listed below. Eat no mixtures of foods, no canned or processed foods unless included in the list below or unless you are sure all of the ingredients are included in this list.

FOODS YOU MAY HAVE

BEVERAGES	Tea (only sugar may be added).
BREAD	Traditional Ry-Krisp* (not seasoned Ry-Krisp*).
CEREAL	Rice—white, brown, wild, puffed, flour.
FATS	Beef fat drippings, pure. Olive oil, pure.
FRUITS	All must be thoroughly cooked with nothing added but sugar.
	Apricots, Cherries, Peaches } Dried, fresh, frozen, home and commercially canned, if only sugar added.
	Cranberries—Fresh, dried, sauce & jelly
	Prunes—Dried
FRUIT JUICES	Homemade and commercially canned, if only sugar added.
	Apricot Juice
	Cranberry Juice
	Prune Juice
MEAT	Beef
MARGARINE	Willow Run Margarine

MISCELLANEOUS	Ripe olives (pure), vanilla extract (pure), gelatin (pure and unflavored), baking soda, tapioca (pure), citric acid (buy from drug store), salt, cream of tartar.
SWEETS	Sugars (white or brown), sugar syrups (homemade), sugar and water candies (pure, homemade), jams and preserves (homemade from allowed fruits and sugar).
VEGETABLES	All must be thoroughly cooked. Seasoned only with salt and allowed fats. Beets—Fresh, dried, and home canned if only salt added. Beet Greens—fresh. Spinach—Fresh, frozen, home and commercially canned if only salt added. Sweet Potatoes—Fresh, dried, home and commercially canned if only salt or/and sugar added.

DAY'S MEAL-PLANNING GUIDE

From meal to meal and from day to day have as great a variety of foods as the following choices allow.
BREAKFAST—Choose at least one food from each of the following groups:

GROUP	FOODS
I Fruits	Any allowed fruit. Any allowed fruit juice.
II Cereals	*Boiled Rice*—brown or white, cooked with extra water to a thin consistency or served with apricot juice or served with thickened prune juice; cooked with fruit.
III Breads	Plain Ry-Krisp* with allowed jelly, jams and preserves. Toasted Ry-Krisp*—sugar-toasted Ry-Krisp*.
IV Beverage	Tea

LUNCH-DINNER—Choose from each of the following groups at least the number of foods indicated for the meals as listed (no limitation on number or size of servings):

GROUP	LUNCH	DINNER	FOODS
I Fruit Juice		Choose 1	Any allowed fruit juice
II Meats	Choose 1 or more	Choose 2 or more	Roast beef Sandwiches—Roast beef slices and Ry-Krisp*
III Vegetables	Choose 1 or more	Choose 2 or more	Beet Greens—hot Beets—Boiled, Harvard*, pickled, salad Rice, boiled—brown, white, wild Spinach—hot salad* Sweet potatoes—boiled, baked, roasted, mashed, glazed*, balls* *NOTE:* Use only salt and beef drippings or olive oil to season those vegetables for which no recipe is given.
IV Relishes	If desired	If desired	Ripe olives, cranberry jelly

V Breads	Choose 1	Choose 1	Toasted Ry-Krisp* or plain Ry-Krisp with allowed jelly, jams and preserves
VI Beverages	If desired	If desired	Tea, hot or iced
VII Desserts	Choose 1	Choose 1	Any allowed cooked fruit Fruited gelatin*, Fruit Betty*, Tapioca pudding* with Rice Cookies* or Sugar-toasted Ry-Krisp* if desired
BETWEEN-MEAL SUGGESTIONS			Any allowed fruit juice. Any allowed cooked fruit. Ry-Krisp*—plain, toasted*, sugar-toasted* Rice Cookies

*See following recipes

RECIPES

In preparing, cooking, and serving foods in this diet, be sure they do not come in contact with any food not in the diet or with utensils and dishes that have not been washed since contact with any food not in the diet.

BEEF STEW

½ lb. beef, cut for stew
1 T. rice flour
¾ tsp. salt
1 T. beef drippings
1¼ cups hot water
1½ cups diced, pared sweet potatoes

Roll beef in mixture of flour and salt. Brown in hot drippings. Add water. Cover; simmer one hour. Add potatoes; cover and cook 25 minutes longer, or until tender. Make gravy with liquid and 1 tablespoon rice flour. Yield: 3 servings.

BEEF WITH RICE

3 T. rice flour
2 T. beef drippings
1 cup hot water
½ tsp. salt
1 cup diced beef
1½ cups hot cooked rice

Brown rice flour in drippings. Add water and salt. Cook and stir until thick and smooth. Add beef and heat thoroughly. Serve over rice. Yield: 3 servings.

BRAISED BEEF

2 beef shanks
½ tsp. salt
2 T. hot beef drippings
¾ cup hot water
2 T. rice flour
2 T. cold water

Sprinkle meat with salt. In heavy pan with tight-fitting cover, brown meat in drippings. Add hot water. Cover. Simmer 1 hour or until tender, adding water if necessary. Remove meat to hot platter. Mix flour and water until smooth. Add to liquid in pan. Stirring until thickened. Yield: 2 servings.

BEEF PATTIES

Only pure beef patties or those mixed with cooked rice or Ry-Krisp* cracker crumbs can be used. Dealer-prepared patties frequently contain wheat products, dried eggs or milk.

BEEF LOAF

½ lb. ground beef
½ tsp. salt
¼ cup Ry-Krisp*
½ cup cranberry juice

Combine ingredients. Pack into loaf pan. Bake in slow oven (325°) for 1 hour.

BEEF LIVER SLICES WITH SPICED PRUNE SAUCE

⅔ cup dried prunes
1½ cups water
¼ cup sugar
½ tsp. citric acid crystals
1 T. rice flour
1 lb. sliced beef liver
2 T. beef drippings

Cover and simmer prunes in water until tender. Drain and cut up prunes, reserving liquid. Combine sugar, citric acid crystals and rice flour. Gradually stir in liquid from prunes (about ½ cup). Cook and stir until slightly thickened. Add cut up prunes and heat thoroughly. Sprinkle beef with salt. Brown on both sides in beef drippings (about 2 minutes on each side). Serve with prune sauce. Yield: 4 servings.

BEETS — HARVARD

2 T. sugar
¼ tsp. salt
½ tsp. citric acid crystals
½ cup beet liquid or water
1 cup hot cooked beets, sliced or diced
1 T. rice flour

Combine sugar, salt, citric acid crystals and flour. Stir in water. Cook and stir until thickened (about 2 minutes). Add beets and heat thoroughly. Yield: 2 servings.

BEETS — PICKLED

Omit rice flour in above recipe. Increase citric acid to 1 teaspoon. Combine sugar, salt, citric acid crystals and water. Pour over beets, chill. Yield: 2 servings.

SWEET POTATOES — GLAZED

Put whole or split, cooked, pared potatoes in saucepan. For each medium sized potato, add 1 tablespoon beef drippings, 2 tablespoons sugar. Cook over low heat, turning frequently, until thoroughly heated and coated with sugar mixture.

SWEET POTATO BALLS

Mash cooked potatoes with beef drippings and salt to taste. Shape into balls. Roll in Ry-Krisp* cracker crumbs. Put in shallow baking dish greased with beef drippings. Heat thoroughly in moderate oven. (375°)

RICE COOKIES

1¼ cups sifted rice flour
¼ tsp. baking soda
1 tsp. cream of tartar
¼ tsp. salt
¼ cup olive oil
1½ tsp. vanilla
½ cup sugar
¼ cup water

Sift flour, baking soda, cream of tartar and salt. Combine olive oil, vanilla and sugar. Add flour alternately with water. Mix well. Drop by teaspoons onto baking sheet oiled with olive oil. Bake in moderate oven (375°) 12 minutes or until light brown. Yield: 24 servings.

RY-KRISP — TOASTED*

Brush tops of 12 Ry-Krisp* crackers with 2 tablespoons melted beef drippings. Bake in moderate oven (350°) 5 minutes. Serve warm or cold. Yield: 4 servings.

TAPIOCA PUDDING

1 cup hot water
2⅓ T. quick-cooking tapioca
¼ tsp. vanilla
¼ cup sugar
⅛ tsp. salt

Combine water, tapioca, sugar and salt. Cook and stir over medium heat until clear and mixture starts to boil (about 5 minutes). Cool. Add vanilla. Chill. Yield: 2 servings.
Peach—Before chilling the above, add ½ cup drained cooked, fresh or dried, cut-up peaches.

FRUITED GELATIN

¾ cup dried fruit*
3 cups water
1 T. unflavored gelatin
¼ cup cold water
¼ tsp. citric acid crystals
⅛ tsp. salt
⅔ cup sugar

Cook fruit in three cups water 30 minutes or until tender. Drain, saving juice. Add water to make 1¾ cups. Soften gelatin in ¼ cup cold water. Heat juice, citric acid, salt and sugar to boiling. Add gelatin, stirring until dissolved. Chill. When beginning to thicken, cut up fruit and add. Rinse mold with water. Pour in gelatin mixture. Chill until firm. Yield: 4 servings.

*Dried apricots, peaches, pitted prunes or a mixture of these can be used. 2 cups fresh sliced peaches can be used if the cooking time is decreased to 15 minutes.

FRUIT BETTY

6 Ry-Krisp* crackers
1 cup cooked dried fruit, *drained and cut up
⅛ tsp. salt
¼ tsp. citric acid crystals
½ cup fruit juice*
1 T. sugar

Grease baking dish with beef drippings. Crumble crackers. Arrange in baking dish layers of fruit and crumbs, fruit on bottom, crumbs on top. Stir citric acid and water into juice and pour over fruit and crumbs. Sprinkle with sugar. Bake in moderate oven (375°) 30 minutes. Serve warm or cold. Yield: 2 or 3 servings.

*For fruit and juice, cook ⅔ cup dried fruit in 1¼ cups water until tender. To apricots, add ½ cup sugar. To prunes or peaches, ⅓ cup sugar. Cook 5 min. longer.

SALAD DRESSING

Basic
2 T. rice flour
½ tsp. salt
2 T. sugar
1 tsp. citric acid crystals
½ cup water
½ cup olive oil
¼ cup Caramel Sugar Syrup (see recipe)

Mix together dry ingredients. Stir in water. Cook, stirring, over low heat 2 minutes or until thickened. Cool. With rotary beater, beat in oil a tablespoon at a time. Beat in syrup. Yield: 1 cup.

CARAMEL SUGAR SYRUP

Sprinkle ¼ cup sugar into skillet over low heat. Stir until sugar melts and turns golden brown. Add ¾ cup sugar and 1 cup boiling water. Cook until smooth, stirring constantly. Boil 10 minutes longer without stirring. Yield: ¾ cup.

OLIVE DRESSING

Add ¼ cup finely cut ripe olives to above Basic Dressing. Serve on spinach or sweet potato salad.

CRANBERRY DRESSING

Add ¼ cup cranberry juice to above Basic Dressing. Serve on Spinach Salad.

SALADS

Beets: Cut up ½ cup cold, cooked beets. Pour over them 2 tablespoons Basic Dressing. Sprinkle with 2 tablespoons Ry-Krisp* cracker crumbs.

Spinach: Rinse and tear up enough fresh spinach to make 1 cup. Chill. Pour over 2 tablespoons Basic, Olive or Cranberry Dressing. Sprinkle with 2 tablespoons Ry-Krisp* cracker crumbs.

Sweet Potato: Cut up ½ cup cold, cooked sweet potatoes. Pour over them 2 tablespoons Basic or Olive Dressing. Sprinkle with 2 tablespoons Ry-Krisp* crumbs.

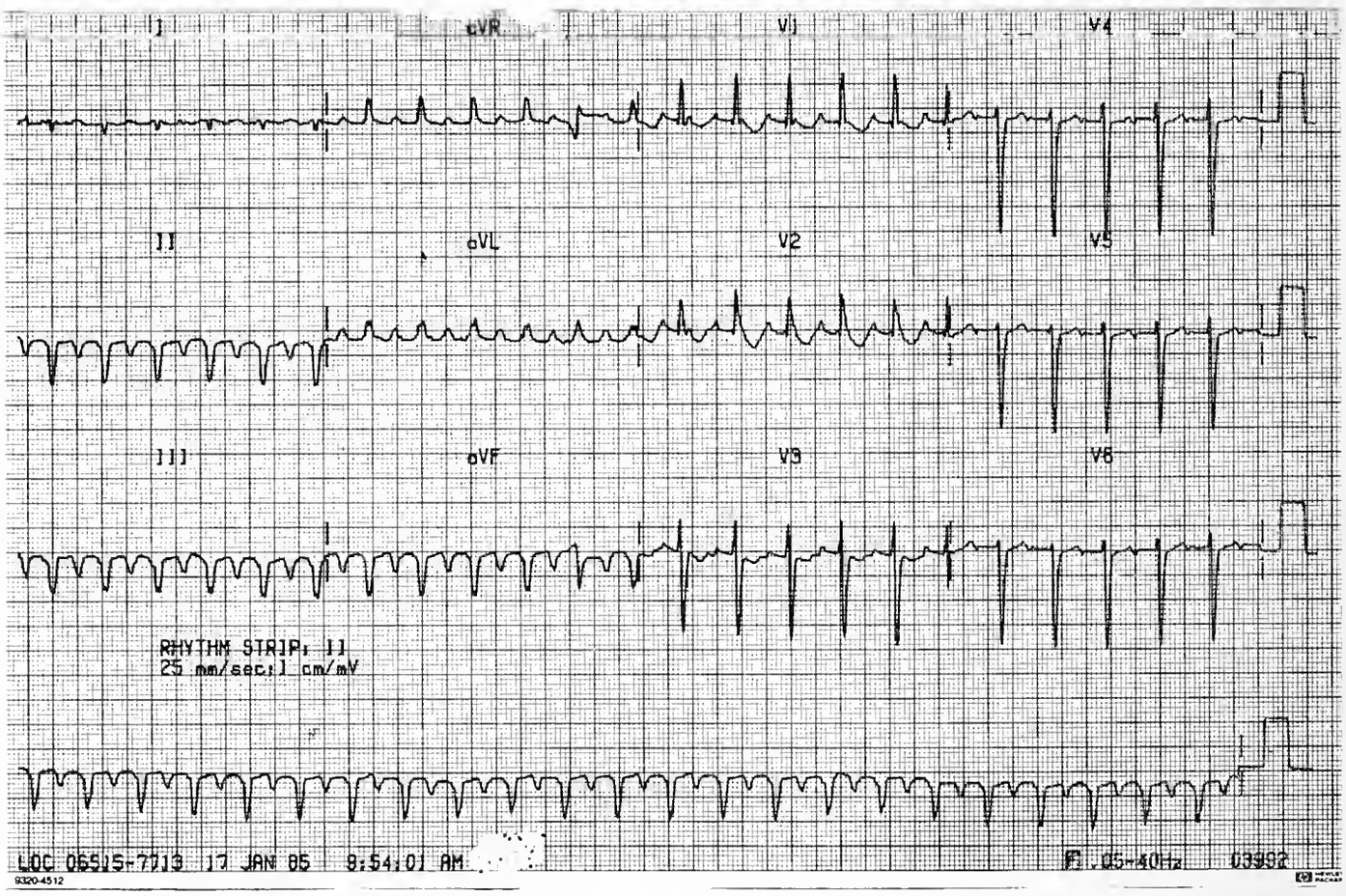
YOU MAY CREATE YOUR OWN RECIPES, BUT DO NOT INCLUDE ANY FOODS THAT ARE NOT ON THE LIST.

ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 618)

HISTORY: J. L. is a 65-year-old man who weighs 167 pounds and is 72 inches tall. This ECG appeared for interpretation without benefit of any additional clinical information. What do you think about the trace?



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Office Orthopaedics

Biologic Fixation Cementless Total Joint Arthroplasty

Richard A. Nix, M.D.*

Arthritis surgery has been revolutionized in the past two decades by advances in the use of orthopedic implants. Most of the surgery during this period has been done using polymethylmethacrylate (PMMA) to secure the implants in the bone. This cement is actually mixed in the operating room and hardens by polymerization within five to fifteen minutes. It functions as a grouting agent to secure the implant in bone much as concrete is used to help secure a fence post. This technique offers excellent immediate stability of joint arthroplasty implants, but long term follow-up studies show significant worsening of clinical results with time. Loss of fixation of the components due to loosening at the bone-cement interface is the primary problem in most cases. In recent years the prospect of a more physiologic stabilization of components has been heavily investigated—that of actual bony ingrowth

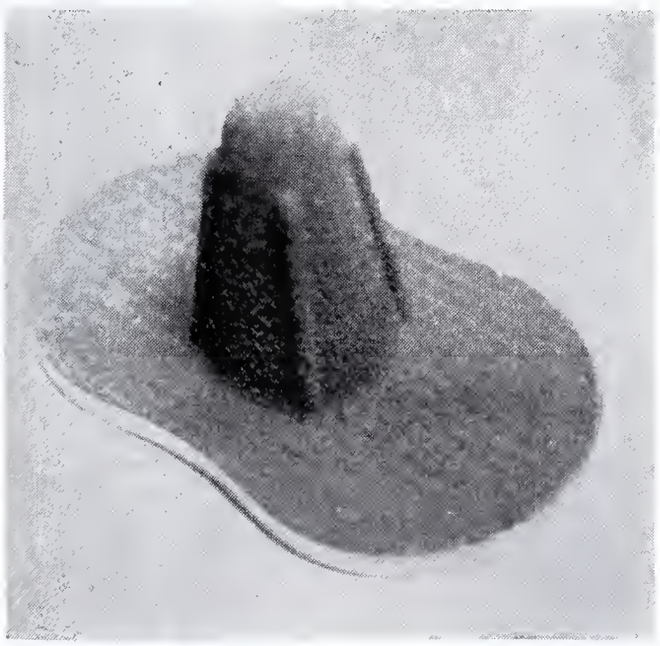


Figure I.

The undersurface of this tibial component of a total knee prosthesis demonstrates the beaded metal surface necessary for secure bony ingrowth.



Figure II.

The tibial component seen in Figure I is shown here securely fixed to bone without the aid of cement.

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into a roughened surface on the orthopedic implant (see Figure I). Declining clinical results with time show a need for improved implant longevity—perhaps these newer methods will offer better results. Following is a summary of the principles and basic science of one alternative, biologic fixation.

Is Cement a Problem?

The short term results of cemented total hip and knee arthroplasties are excellent. Newer data have shown a gradual decline of good results in these same patients as time passes. The vast majority of these problems are due to prosthetic loosening at the bone-cement interface. A review of Charnley total hip arthroplasties done at the Mayo Clinic and published in 1982 revealed an incidence of 24% femoral component loosening at five years. This increased to 30% by ten years.[6] Of the acetabular components, 6% were found to be loose at five years follow-up while this increased to 11% at ten years follow-up. In patients less than sixty years of age, the risk of component loosening was about five times greater. Some disturbing figures from a Cleveland clinic review in 1982[5] showed at ten year follow-up a 40% incidence of femoral loosening and a 29% incidence of acetabular loosening. Goldring, et al[2] demonstrated the formation of a synovial-like tissue at the bone-cement interface of loose total hip components with the capacity to generate prostaglandins and collagenase. These interesting findings imply that the body may take a histologically active role in progressive bone lysis and loosening of prostheses. Previously only a passive role of mechanical loosening was recognized. Many feel that porcoated implants and their biologic fixation to bone circumvent the problems of the bone-cement interface, and therefore will remain secure longer.

Bony Ingrowth

Porcoating of implants for bony ingrowth is achieved by heat fixation of microscopic metal spheres to the surface of the implant (see Figures



Figure III.

Both femoral and acetabular components of this total hip arthroplasty are secured without cement due to precise bony cuts and secure impaction.



Figure IV.

A closer view of Figure III demonstrates the metallic porous coating on the proximal stem of the femoral implant.

III and IV). According to Dr. Anthony K. Hedley[7] of the Arizona Arthritis Surgeons, the rules of successful bony ingrowth with porcoating are: (1) proper pore size, (2) implant stability, (3) time, and (4) biocompatibility of materials.

Laboratory studies have shown that a pore size diameter of 50 to 60 microns is too small for bony ingrowth and results in only fibrous tissue ingrowth. Harris, et al[3] successfully achieved bony ingrowth of acetabular components in canine models using a pore size from 150 to 250 microns. Hedley, et al[4] demonstrated comparable results using implants porcoated with an average pore size of 350 microns. The maximum pore size for consistent successful ingrowth is not known.

Stability of components is of paramount importance (see Figure II). The pore size available for bony ingrowth equals the actual pore size minus any movement of the components. Surgical technique to achieve implant stability without cement can be technically quite demanding and at times, impossible.

In 1971, Galante, et al[1] published data on the rate of bony ingrowth into porcoated prostheses in canine models. Their data showed development of maximum shear strength at the bone-prosthesis interface in cancellous bone by three weeks. More recent pull-out tests of PCA total hip components (Howmedica—pore size 425 microns) demonstrated that at six weeks post-op, the stability of the porcoated prosthesis was equal to that of the cemented prosthesis in its immediate post-op phase.

Component biocompatibility is a hypothetical problem as porcoated implants have a much increased surface area coupled with direct bony contact, unlike cemented inplants. Of primary concern are metal corrosion and cytotoxicity (including carcinogenesis). Most available prostheses are stainless steel alloys including cobalt, chrome, molybdenum, and traces of nickel. All but molybdenum are found in the body as essential trace minerals. In spite of the increased surface area of porcoated implants per body weight, there is no increase in urine levels of these elemental metals. This suggests no increase in corrosion rate.

Is Cementless Better?

It is clear that cemented total joint prostheses offer the best *immediate* stability—their longevity is suspect, however. Data presented here shows that stability of parts comparable to cemented ones is achieved within only a few weeks. Biologic fixation through porcoating of implants allows the possibility of "dynamic fixation." According to Wolff's Law, cancellous bone responds positively to stresses placed upon it. It is thought that this ongoing cancellous bone remodeling will maintain secure fixation of components longer than has been seen with those fixed with methylmethacrylate. Biologic fixation through porcoating of prostheses appears to be a very positive addition to our current techniques of total joint arthroplasty.

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EDITORIAL

Symposium on Multiple Sclerosis

Alfred Kahn, Jr., M.D.

Multiple sclerosis is a disease of unknown etiology which is both widespread and crippling. Many studies have been performed on cases of multiple sclerosis in an effort to determine the cause of the disease and to try and formulate an appropriate type of treatment. As yet, the cause of multiple sclerosis is not known. The morbidity and mortality of multiple sclerosis does not seem to be improved by the forms of treatment employed to this point. The problems of multiple sclerosis are well-outlined in a recent article. A symposium on multiple sclerosis was published in the Annals of Internal Medicine; it was from the UCLA School of Medicine and was given by G. W. Ellison, B. R. Visscher, M. C. Graves and J. L. Fahey (Annals of Internal Medicine, Volume 101, Page 514, October, 1984).

Dr. Ellison introduced the conference and states that multiple sclerosis seemed to have multiple causes. It was uncertain, in his opinion, as to the exact nature of the cause of multiple sclerosis, but he suspected that there might be a virus in the central nervous system which sets up some sort of autoimmune process; the virus might then leave the body—although the autoimmune process could continue. He furthered this concept by relating that multiple sclerosis is accompanied by an elevated immunoglobulin and this may be from a suspected virus; there is a problem with this in that research has not really supported the idea that a virus is the cause of the elevated immunoglobulin; on the other hand, this is not entirely ruled out. Dr. Ellison felt that the presence of a lot of mononuclear cells in the areas of the nervous system affected by mononucleosis was evidence in favor of an immune reaction.

Dr. Visscher discussed evidence for an environmental agent as the cause of multiple sclerosis. In her research, she points out that multiple sclerosis exists principally in the higher latitudes, both north and south of the equator; the United States is in one of the areas where there is a prevalence of multiple sclerosis. She speculated that the geographic prevalence of multiple sclerosis in the cooler climates might have something to do with genetic susceptibility, HLA type, the amount of sunlight received, diet, lifestyle, sanitation, etc. It was reported here that an effort was made to determine whether genetic or environmental factors cause multiple sclerosis, and a search was made for the incidence of multiple sclerosis in migrants. It was found out that migrants from northern countries to Israel seemed to have a higher incidence of multiple sclerosis and that migrants from Japan to Los Angeles had a lower incidence of multiple sclerosis. It is of interest that there are more cases of multiple sclerosis in the northern United States than in the southern United States. Environmental factors are presumed to be a cause of multiple sclerosis in natives of the Faroe Islands. Many natives of the Faroe Islands developed multiple sclerosis after British troops were stationed there during World War II.

Dr. M. C. Graves reviewed the matter of viruses and demyelinating disease. He pointed out that there are known viruses which seem to produce, or at least be associated with, demyelinating diseases, and he cited possible infectious encephalomyelitis, which was said to consist of demyelinating lesions and the infiltration of lymphocytes around blood vessels in the central nervous system, especially in white matter—the process is said to begin in a time after the infection compatible with an allergic process; in fact, in laboratory animals, allergic encephalomyelitis has been produced which appears to be like the type of viral encephalomyelitis. Dr. Graves also points out that progressive multifocal leukoencephalopathy is a disease similar to multiple sclerosis which is caused by human papovavirus. He also relates

that measles virus may cause demyelinization in the central nervous system and cause a disorder known as subacute sclerosing panencephalitis. It is reported by this author that laboratory animals have viral disease that can produce demyelinating diseases; this is seen in mice, dogs, sheep and elsewhere. Dr. Graves states that he is not certain as to whether the virus directly induces the demyelinating lesion or if it is due to some type of autoimmune process. It is reported herein that a viral cause of multiple sclerosis has been sought by many investigators by culturing nervous system lesions and spinal fluid from patients with multiple sclerosis. No definite proof of a viral agent has been found using this technique. It does not seem possible to take material from a patient with multiple sclerosis and inject it into a laboratory animal and induce multiple sclerosis. One suggestive piece of evidence for a viral cause of multiple sclerosis is a search for viruses in multiple sclerotic lesions using nucleic acid hybridization with radiolabeled DNA. One study is quoted which suggests that measle virus might be associated with multiple sclerosis. Serologic examinations for multiple sclerosis have been used as an investigative tool; the findings here have been incomplete; some of the studies suggest measles virus as a possibility, but this seems to be present only in a limited number of cases. According to Graves, the elevation of the spinal fluid immunoglobulin does not clearly indicate a viral cause, although it indicates a suspicion of viral etiology; there may be an unknown virus which produces multiple sclerosis.

Dr. J. L. Fahey reviewed the immune response in multiple sclerosis; he stated that the elevated gammaglobulin level in the cerebrospinal fluid and the oligoclonal immunoglobulin level seemed to indicate that there was some disturbance of humora immune response in multiple sclerosis. Furthermore, he adds that the nature of the cells seen histologically in lesions of multiple sclerosis tend to indicate a cellular presence. The cells are: plasma cells, T-lymphocytes and macrophages. There are also said to be changes in the T-cells in multiple sclerosis; the T-suppressor cells are altered and Fahey feels that this is a significant point favoring an immune reaction. Fahey puts great significance in the presence of electrophoretic studies on the spinal fluid which show oligoclonal protein bands. The cerebrospinal fluid immunoglobulin in persons with multiple sclerosis is said to be made in the brain. Oligoclonal protein bands are found in other diseases of the central nervous system besides multiple sclerosis. In these other diseases, the immunoglobulin seems to be aimed at a definite viral agent, but this cannot be identified in multiple sclerosis cases. In fact, there is some evidence from studying the immunoglobulins in the spinal fluid of patients with multiple sclerosis that maybe multiple agents are capable of causing the disease. The T-cell immune system has been suspected of playing a role in multiple sclerosis also, and Fahey describes the fact that tissue taken from the central nervous system and injected into laboratory animals is capable of causing activity in the animal's peripheral immune system; there is already feedback in which this immune response, once established, could, in turn, injure certain myelin proteins in the central nervous system. To this date, the author reports that there is no current evidence that a disorder in the peripheral immune system can injure the central nervous system. Some studies have shown decreased numbers of certain T-cell sub-populations in active multiple sclerosis, but this is not a clear-cut pattern, and is said to not be substantial evidence that the T-cell system is a unitary cause of multiple sclerosis. The T-suppressor cells are reduced in some cases of multiple sclerosis, but the cause of this is unclear. Fahey also reports on the matter of natural killer and killer cell systems in multiple sclerosis, and he goes on to say that killer cells seem to attack cells containing viruses and malignant cells; they are also said to be the agent for cell killing in anti-body-dependant cellular cytotoxicity. It has been found that there are low levels of interferon in multiple sclerosis, and it has been postulated that this might mean a reduced response to the disease of mutilple sclerosis by killer cells—or it could possibly mean that reduced function of the T-cells played an etiologic role. Fahey states that peripheral blood natural killer activity is ordinarily within the normal range in multiple sclerosis. Fahey also discussed immuno-suppressive therapy and immunopharmacology in multiple sclerosis. He said that, in this regard, there are two possibilities which have been considered: firstly, that multiple sclerosis might be a systemic disease in which the oligodendrocytes which contain myelin are a target organ; or secondly, multiple sclerosis might be considered a neurologic disease with immune

reactions strictly in the central nervous system. Some of the drugs which have been used in studying immunity in the central nervous system are: adrenal steroids, Azathioprine, Cyclophosphamide and Lomustine. The results of the use of these drugs is unclear. These drugs have been used with benefit in some patients, but the response is unpredictable.

The symposium was closed by Dr. Ellison, who again states the therapy in multiple sclerosis was somewhat uncertain. He described the fact that ACTH was temporarily helpful, as is Prednisone. He feels that Cyclophosphamide may be temporarily helpful, but there is a certain inherent danger in its use. Plasmapheresis has been investigated as a means of inducing a temporary remission of multiple sclerosis, but there is not enough information available to know if it is worthwhile. Intrathecal interferon has been tried, but again the results are uncertain. The same is true of hyperbaric oxygen.

Multiple sclerosis is a good example of a disease which has dified modern medical investigative techniques to this point. Some new investigative methods will have to be developed before the etiology of multiple sclerosis can be discovered. Once the cause of multiple sclerosis is clearly known, then an appropriate form of treatment can hopefully be worked out.



ANSWER—Electrocardiogram of the Month

DISCUSSION: This is an unusual electracardiagram. One feels upan inspectian af lead V_1 that the patient has twa P-waves far each QRS, with atrial rate 272/minute and ventricular rate 136/minute. This atrial arrhythmia is mast prabably atrial flutter. From there, life becames difficult with respect ta reading this ECG. The axis is indeterminate. The P-waves in I may be inverted but one can nat be certain because af the law valtage in lead I. The QRS duratian daes nat exceed 0.10 secands. Are Q-waves present in II, III, and AVF? The pragressian af R-waves in V_1-V_6 is add, appearing ta be the reverse af what ane narmally expects ta see. Many chaices exist with respect ta explanatians far the abnarmalities nated, including dextracardia, standard limb lead reversal, right ventricular hypertraphy, inferiar and true pasteriar infarctian, and preexcitatian syndrames. Mast abservers will agree that atrial flutter is present, that the trace shauld be repeated ta exclude technical errar, and that more clinical infarmatian is needed. This trace illustrates the prablems that ane encaunters an accasian with a pattern based reading methad af ECG's.



"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Thomas Edgar Murrell — Ophthalmologist-Otologist

Calvin Hanna, Ph.D.*

Thomas E. Murrell, born in Bolivar, Tennessee, November 1, 1850, moved to Lonoke at an early age. Later he attended St. John's College in Little Rock and Oxford College in Mississippi. After graduating from the Medical Department, University of Maryland, Baltimore, with highest honors and two further years of special training in Baltimore, he returned to Little Rock in 1875 to set up a practice on Diseases of the Eye, Ear and Throat (Ophthalmology and Aurel). In 1879, Thomas Edgar, that is he always used the initials TE, became a lecturer on eye, ear and microscopy at the new Department of Medicine, Arkansas Industrial University. Doctor Murrell's training included chemistry and physiology and he continued research in this area. By 1891 he was Professor of Ophthalmology and had become nationally known for his scholarly activity. Soon he was offered the Chair of Ophthalmology at the Barnes Medical College in St. Louis. Doctor Murrell suffered from chronic dyspepsia and later contracted pulmonary tuberculosis. So after a couple of years, he moved to Denver, Colorado, (Tuberculosis Sanitorium,) and died on July 26, 1898, at the age of 48 years.

Doctor Murrell's arrival in Little Rock occurred when the State Medical Society of Arkansas was organized. He soon presented a series of medical cases to the State and American Medical Societies. The medical and academic career of TE lasted just twenty years, yet he published at least thirty-five papers and became the first vice-president of the Section on Ophthalmology of the American Medical Association in 1893. The ontstanding list of publications for the period included the Journal of the American Medical Association, Ophthalmology Record of Nashville, Transactions of the Arkansas, Missouri, and Colorado Medical Societies, Deutsche Amerika Medica Zeitung of St. Louis, American Journal of Ophthalmology, and the Archives of Ophthalmology. The subject matter included studies on the ear, the blood, the use of homatropine, cataract extraction, the retina, as well as reports on scarlatina, iridemia, and intestinal entozoon. Doctor Murrell began the first scholarly publications on medicine in Arkansas and by the turn of the century, Arkansas authors brought this to a high degree of perfection.

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MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

Medicare/Medicaid Cuts Foreseen In Budget

As the Reagan Administration continues to develop and revise its 1986 budget proposal, Congressional reaction seems to indicate that lawmakers may tinker with the proposed Medicare and Medicaid cuts. If the cuts become part of a general freeze on all federal programs, however, modifications are much less likely. Among the areas where Congress would change the President's proposal are Medicare freezes on payment levels to physicians and hospitals, reductions in federal Medicaid funds, and increases in cost-sharing for Medicare beneficiaries.

Although the President has acknowledged that his budget proposal will include a one year extension of the current freeze on physician fee levels, details of the plan have not been made available. There are strong signals that the proposal will apply to all physicians, including those who signed "participating physician" agreements last fall.

One incentive for signing the participating agreement—which commits the M.D. to accepting the Medicare fee level as full payment for all cases —was the promise of a potentially higher fee allowance at the conclusion of the current freeze on October 1, 1985.

Congressional staffers report that some lawmakers are therefore reluctant to freeze fees of participating physicians because they see this as reneging on a financial commitment they made to these M.Ds. Other members are said to believe freezing fees of the participating physician would in effect terminate an experiment they want to continue.

The President also has announced that he wants to freeze Medicare payment rates for hospitals. Under current law, hospital rates would be permitted to increase by a percentage equal to the increase in the market basket of goods and services they purchase plus 0.25%. Under the budget proposal, no increase would be permitted.

Hospitals are concerned that the proposed freeze could mean that some institutions, rather than receiving the same payment per case in 1986 as in 1985, would actually receive lower payments.

Industry officials who argue that many of these may be institutions that have higher costs because they provide more indigent care, treat sicker patients or are located in high cost areas are calling for protection for some of these facilities.

Several alternatives have emerged. One would simply provide that no hospital would receive a lower payment per case in 1986 than in 1985, this "holding (the hospitals) harmless." Another would freeze the current 50-50 split between the hospital specific and the national portions of the DRG rate. A third proposal, backed by the American Hospital Association, would blend the national and hospital specific rate separately for each DRG based on how much costs for the particular DRG varied among hospitals.

Hospital spokesmen say they believe there is support for both a "hold harmless" proposal and a phase-in freeze. In addition, a preliminary study from the Congressional Budget Office, while not endorsing the AHA-proposed blending approach, has concluded that blending would be accomplished without any increase in DRG rates and that it would narrow the range of gains and losses that hospitals would experience under a fully-national DRG rate.

Lawmakers are also worried about cuts that could harm beneficiaries. Health and Human Services Secretary Margaret Heckler has suggested that an Office of Management and Budget proposal to raise the Medicare Part B premium to cover 35% of program costs by 1990 be modified to cover only 30% of costs. Two influential Senate Republicans, Majority Leader Robert Dole of Kansas and Senate Finance health subcommittee chairman David Durenberger, reportedly are ready to offer the Heckler proposal as an alternative. Democrats can be expected to press for the reduction or elimination of increased beneficiary cost-sharing.

Even more controversy has arisen over the President's call for a $1 billion reduction in federal Medicaid expenditures in fiscal 1986 and a cap that in following years would permit increases

only equal to the rise in the gross national product deflator. The administration is now said to have modified the plan by creating a $300 million fund to help states that were unable to curb Medicaid costs despite "good faith efforts."

* * * *

Heckler Calls For Tobacco Tax Extension

Amidst continued speculation over the fiscal 1986 Reagan Administration budget, HHS Secretary Margaret Heckler has proposed extending the current 16 cent federal excise tax on cigarettes to help stave off bankruptcy in the Medicare hospital trust fund.

The tobacco tax, which was raised from 8 cents to 16 cents on January 1, 1983, was scheduled to return to 8 cents on October 1, 1985. Heckler's proposal would continue the current rate after expiration date. The revenues gained from not reducing the tax would be earmarked for the hospital trust fund. The Congressional Budget Office and the Treasury Department had previously estimated that this would increase federal revenues by $7.6 billion from 1986 through 1989.

The proposal also is similar to legislation that has been introduced by California Democrat Rep. Fortney Stark.

* * * *

Medicare Offers HMO Option

A new prospective payment option for Medicare HMO enrollees, scheduled to take effect February 1, is expected to encourage up to 800,000 Medicare beneficiaries to join HMOs or other competitive medical plans within the next three or four years.

Final regulations to implement the new payment method were published in the Federal Register on January 10. The reimbursement change, which results from a 1982 law, would institute a program that American Medical Association delegates have urged be delayed.

Substantial changes have been made in the rules since they were first proposed last May. The most significant is a requirement that Peer Review Organizations review the care of Medicare HMO enrollees.

The new rules give HMOs, preferred provider organizations and other alternative delivery plans two payment options. The plan may either continue under the cost-based arrangements nearly all HMOs operate under today. Or it may be paid a prospective monthly fee for each of its Medicare beneficiaries.

Under the prospective payment, HMOs would receive up to 95% of Medicare's average cost per beneficiary in the community for each Medicare HMO enrollee. Adjustments would be made for age, sex and institutional status of the Medicare enrollees.

The HMOs or other prospectively-paid plans must provide benefits at least equal to those of Medicare. If the plan's cost of providing care to Medicare recipients is less than 95% of Medicare's so-called average adjusted per capita cost, the HMO must accept a lower payment or provide more benefits to Medicare enrollees. Plans may charge a premium to cover the costs of extra services and premiums are expected to range from $20 to $50.

Beneficiaries would still be liable for the monthly Part B premium and could also still be held responsible for cost-sharing equal to the current liability in the standard Medicare plan. Based on the experience of HMOs participating in a demonstration of a similar Medicare financing arrangement, many of the plans are expected to reduce or eliminate current cost-sharing, however.

Twenty-one HMOs have participated in the demonstration but an evaluation of the demonstration has not been completed. The demonstration did show that large numbers of Medicare beneficiaries will enroll in HMOs when offered new benefits not covered by Medicare.

It has also raised some concerns, however, particularly in Florida, where the General Accounting Office is investigating one demonstration plan —the International Medical Centers. Other concerns about the new payment method have centered primarily on costs, potential withholding of needed services, and administrative feasibility of calculating the average adjusted per capita cost.

* * * *

Medicare "Participation" At 30%; Accepted Claims Rise

About 30% of physicians treating Medicare patients signed "participating agreements" with the program in fiscal 1984. At the same time, the number of claims for which physicians accepted Medicare fee allowances as full payment rose to a record 66.5% in November of last year.

The physician sign-up rates varied by state and by specialty, ranging from 5.6% in South Dakota to 53.9% in Alabama and from 18.2% for some

miscellaneous surgical specialties to 50.8% for nephrologists.

The "participating" concept was established in legislation enacted last fall and now under challenge in federal courts by the American Medical Association, the Indiana Medical Society and some individual physicians. The law froze Medicare fees for all physicians until October 1985 and provided financial and administrative incentives for practitioners who agreed to "participate." Participating physicians must accept assignment on all Medical claims, billing the patient only for the 20% of the Medicare allowable fee that is not paid by the program.

In fiscal 1984, about 56% of Medicare claims were taken on assignment and about 20% of physicians reportedly always assigned claims, according to HCFA. In fiscal 1985, some 118,428 physicians, or 29.8% of those treating Medicare patients, signed participating agreements. Assignment rates, which had been rising slowly since 1976, jumped to 66.5% of all claims, or 5% higher than their previous high of 61.5% in 1969, HCFA says.

In addition to physicians, some 19,751 or 34% of non-physician practitioners treating Medicare patients and 17,822 or 23.8% of Medicare suppliers signed agreements.

In three states and the District of Columbia, more than half of all physicians with Medicare patients signed participating agreements, HCFA reported. Following Alabama were Kansas and the District at 52.9% and Pennsylvania at 51.1%. Other states where more than 40% of physicians agreed to participate are New Mexico (48.6%), Massachusetts (47.9%), Rhode Island (46%), Arkansas (44.6%), Michigan (43.4%) and Vermont (42.2%).

In South Dakota, only 5.6% of physicians agreed to participate and in Alaska 9.4% signed agreements. Other states with participating rates of less than 15% are North Dakota (10.4%), Idaho (11%), Oklahoma (12.8%), South Carolina (13.5%), and Oregon (13.8%).

Among physician specialty groups, the highest sign-up rates occurred among nephrologists, who typically treat large percentages of Medicare patients under the program's End Stage Renal Disease Treatment coverage.

The hospital-based specialties of radiology (41.3%) and pathology (39.6%) also showed higher than average sign-up rates while anesthesiologists were at 21.1%.

* * * *

Peer Review Suit Filed By Hospital Association

Making good on a long-standing threat, the American Hospital Association has sued the federal government over its implementation of Medicare peer review organizations (PROs).

One issue in the suit—the issuance of four sets of final PRO regulations—may be close to resolution, however, with reports that the regulations have cleared a snag in the Office of Health and Human Services Secretary Margaret Heckler and been sent to the Office of Management and Budget.

The regulations govern the way PROs conduct review, the appeals and sanctions processes, and the confidentiality of PRO data. Both hospitals and PROs have complained about the lack of final regulations. Minnesota Republican Senator David Durenberger has said that one of his first items of business as chairman of the Senate health subcommittee will be hearings on the program.

PRO supporters hope the AHA legal action and the promised hearings will forestall implementation of the program.

Another snarl in the overall implementation of the program has arisen, however, with the decision by PRO officials to reopen bidding on a so-called Super PRO contract. Four bids reportedly were received on the contract but the only organization which has publically acknowledged its bid is the American Medical Association.

AHA's decision to sue the government came six months after the organization, representing 7,000 hospitals, first charged that the numerical objectives in PRO contracts amounted to "quotas" to reduce Medicare hospital admissions by 1.25 million in two years.

An earlier threat to sue was dissipated by repeated assurances from HCFA officials that the contract objectives would be renegotiated if they proved unreasonable. In recent months, AHA officials had said they were "cautiously optimistic" that their problems with the PRO program could be worked out. Association spokesman said the decision to proceed with the suit resulted from "membership pressure." HHS Secretary Margaret Heckler cancelled a scheduled appearance at an annual AHA meeting after learning of the suit.

Filed January 29 in the U. S. District Court in the District of Columbia, the lawsuit does not seek to stop the operation of the PRO program.

Instead it complains of inadequate public accountability in the installation of the program and calls on HHS to follow the Administrative Procedures Act in implementing the review system. HHS will have 60 days to answer the AHA complaint.

* * * *

NIH Research Grants In Jeopardy

For many medical investigators gearing up for their newest research project, federal cutbacks have suddenly hit home in January.

After receiving letters from the National Institutes of Health (NIH) last year indicating they could expect funding in January, some 1,500 researchers received a second letter saying that their grant proposals are being reevaluated, and may be rejected.

The trouble revolves around the Reagan Administration's interpretation of law.

Last year Congress passed a bill that funded certain levels of NIH research, stating that the money would go toward 6,600 grants. The Administration, while leaving the total amount of money intact, now says that it will be spent on only 5,000 grants and rather than devoting the money to one-year grants, as Congress intended, the Administration says the money will go toward the second and third-year funding of some grants as well. Administration officials say that these changes in NIH spending patterns will save at least $280 million a year in upcoming years.

Researchers most likely to be hurt are those on the borderline of funding. NIH observers say that the cutoff "priority score"—which ranks a project based on its potential contribution to science—will shift.

The cutbacks will affect all types of medical research, including studies of cancer, heart disease, arthritis, immunology, cell biology, molecular genetics, neurological disorders, and stroke. Specific cut-off levels will vary from institution to institution, NIH officials note.

Congressional response has been muted as legislators wait to see the specific features of the upcoming 1986 budget. This budget will reveal how many additional cuts can be expected by NIH—and will influence how hard Congress will decide to fight.

* * * *

Oral Dosage Drug For Herpes Cleared

The Food and Drug Administration in January approved a pill to treat genital herpes.

The oral dosage form of acylovir will be marketed under the name Zovirax. It will join the intravenous and ointment forms of the drug in attempting to capture the $220 million herpes market. The product is manufactured by Burroughs Wellcome Co. and could aid the 5 million to 20 million Americans believed to be affected by the disease.

* * * *

New Cesearean Guidelines Issued

The American College of Obstetricians and Gynecologists (ACOG) has issued new guidelines that encourage women who have had a previous cesarean birth to deliver their next child vaginally.

As many as 280,000 of the 700,000 cesarean births performed each year are indicated because of a previous cesarean delivery. Of these women, roughly 100,000 could instead have a safe vaginal birth, ACOG said.

ACOG's new guidelines, could slow the steady rise in the number and rates of cesarean births. Of all cesarean births, 55% are due to a previous cesarean, 24% are due to "failure to progress" in labor, 13% are due to fetal distress, and 5% are due to breech presentation of the infant.

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Aspirin/Reyes Warning Set

Aspirin manufacturers this month agreed to develop new labels that warn of a possible link between aspirin and Reyes syndrome.

Their action was based on newly released data from a Centers for Disease Control study which reveals a strong association between the children's disease and the use of aspirin.

Researchers found that 97% of children with Reye's Syndrome were reported to have used aspirin during respiratory or chickenpox illnesses before the onset of Reye's Syndrome. Of control case groups without Reyes syndrome, between 28% and 55% had received aspirin for matching illnesses.

In response to HHS Secretary Margaret Heckler's request, aspirin manufacturers voluntarily agreed to:

- ★ place a warning on aspirin packages.
- ★ discontinue any promotion for use of their produce in cases of flu or chicken pox.
- ★ warn that physicians be notified before use of aspirin in cases of flu or chicken pox.

The reduced incidence of the disease over the past several years—from 454 cases in 1975 to 190

cases in 1984—has been attributed to the decline in the use of aspirin among young children.

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Vaccine Woes Heard On Capitol Hill

Unless government stockpiles are substantially bolstered and manufacturers are relieved of some liability, other vaccines could suffer the same fate as the diptheria, tetanus, and pertussis (DTP) vaccine, Congress was warned this month.

Two lots of the DTP vaccine recently failed to meet potency standards, creating a sudden shortage of 2 million doses of the vaccine. The shortage forced physicians across the country to postpone booster shots to any child more than a year old.

Levels of oral polio vaccine (OPV) have also taken an unexpected dive. Last summer, when Lederle Labs removed aging doses of OPV from government stockpiles to distribute to physicians, backup supplies dropped from 3.4 million doses to 600,000 doses. If production had been suddenly interrupted, the nation would have had less than 12 days supply of the polio vaccine.

The situation has not created a health crisis at this time. Most children are already immunized against the diseases and partial immunizations are not expected to reduce immunity. But Congress and the medical community believe the government should protect itself from fires, explosions, potency problems, and other sudden interruptions in vaccine production.

"At best, we are in a situation with an uncertain vaccine supply. At worst, there could be dangerous shortages, postponements of immunizations, and outbreaks of disease," said Alan R. Nelson, M.D., Board member of the AMA, at a January hearing before a House subcommittee.

The stockpiling program falls far short of national needs, charged Rep. Henry Waxman (D-CA) and other members of Congress. Because the Reagan Administration has failed to provide adequate funding, vaccine stockpile levels stay dangerously low, they said.

The problem could be eased by making the vaccine business more attractive to manufacturers by reducing the number of lawsuits, witnesses said. The present dollar demand of DTP lawsuits against Lederle is 200 times greater than their total sales of the vaccine in 1983.

Within the medical and congressional communities, there is general agreement that Congress should take steps to compensate children and families injured by vaccines. A federally sponsored compensation program, financed by a general revenue trust fund or a surcharge on each dose of vaccine, could also reduce the number of lawsuits, proponents believe.

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Anti-Abortion Bills Sent To Congress

The first of a series of anti-abortion bills was introduced in the Senate's opening days in January.

The bill, called the "Unborn Children's Civil Rights Act of 1985" (S. 46), was introduced by Sen. Jesse Helms (R-NC) and Gordon Humphrey (R-NH) and endorsed by a coalition of anti-abortion groups.

The proposed legislation states that:

- ★ scientific evidence demonstrates that abortion takes the life of an unborn child who is a human being,
- ★ the right to an abortion is not secured by the Constitution, and
- ★ the Supreme Court, in its Roe v. Wade decision, erred in not recognizing the humanity of the unborn child.

It also denied federal funding for abortion and fetal research, except to save the lives of the mother or child.

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Organ Task Force Formed

The new Task Force on Organ Transplantation, established by the Department of Health and Human Services this month, will begin reviewing the nation's organ transplant network in February.

The task force, authorized by the National Organ Transplantation Act of 1984, will advise HHS on the medical, lethal, ethical, economic, and social aspects of organ transplantation. It also will advise HHS on the feasibility of setting up grant programs to develop new procurement organizations and networks.

It must report to HHS and Congress on issues of immunosuppressive drugs by July and prepare a final report by next January.

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Doctor Draft Revisited

The Pentagon should draft doctors and other health care professionals for rapid induction in the event of a war, according to a Heritage Foundation report released in January.

The U. S. Armed Services are short 60,000 medical specialists and could only treat a small fraction of the battlefield wounded if large-scale

conventional warfare breaks out, said the author of the report, former director of the Army Reserve Maj. Gen. Henry Mohr (USA-Ret).

The report recommended immediate registration of all persons between the ages of 18 and 46 who are trained in health care occupations. Both women and men should be drafted, he said, as well as all persons with technical medical skills.

Yielding to heavy opposition from the American Medical Association, American Nurses Association, the American Public Health Association and other groups, the Pentagon recently abandoned a peacetime registration plan for drafting doctors and other healthcare workers.

A draft discriminates against physicians and other health care professionals because it would subject them to a special military registration and to potential induction throughout their lives, AMA said. Increased efforts to recruit physicians —by offering attractive benefits, for instance— would boost health manpower, the AMA believes.

Under current Pentagon plans, a physician draft will be part of a broad "Mobilization Day" registration plan, to be handed over to Congress only in the event of "World War III or another national emergency," said a Pentagon spokesman.

* * * *

Oral Anti-Herpes Drug Approved

The FDA has approved the oral form of the anti-herpes virus drug Acyclovir (Burroughs-Wellcome). The agency will continue to require surveillance of the use of the drug when it is on the market. It wants to monitor the effects of the drug and the possibility that the herpes virus might develop resistance to acyclovir. Although it is recommended only for the treatment of genital herpes, not oral herpes, the availability of acyclovir in the oral form (it is already on the market in an injectable form) will widen the use of the drug considerably. Studies have shown there is an 85% reduction in recurrences of genital herpes infections when they are adequately treated with the oral form.

MEDICAID PROVIDER REENROLLMENT

Recently, all providers currently enrolled in the Arkansas Medicaid Program received a reenrollment packet from the Office of Medical Services. This packet contained the necessary forms and instructions for reenrollment in the Medicaid Program. This reenrollment is being processed by the Medicaid Provider Enrollment Unit and is a result of an enhanced Medicaid Management Information System (MMIS) being implemented by the State of Arkansas.

Providers were asked to complete and return the enrollment packet by May 1, 1985, in order to continue as an Arkansas Medicaid Provider. Reenrollment packets must be received by the Medicaid Provider Enrollment Unit by this date to continue provider eligibility. Failure to comply with this procedure will result in provider termination from the Medicaid Program and all claims being denied.

All inquiries regarding the reenrollment procedure should be directed to the Medicaid Provider Enrollment Unit at 371-2387 (Greater Little Rock Area) or 1-800-482-1141 (In-State WATS).

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

ADVANCE DIRECTIVES IN MEDICINE: ETHICAL, LEGAL, AND MEDICAL CONSIDERATIONS

Course directors, Chris Hackler, Ph.D., and Ray Moseley, Ph.D., Division of Medical Humanities, UAMS. *May 2-4, (Thursday 1:00-5:15; Friday 8:00-5:15; Saturday 9:00-12:30)*, University Conference Center and Statehouse Plaza, Little Rock. Twelve hours Category 1 credit. Fee: Physicians

$125; other health professionals $75. Sponsored by UAMS.

THE GENERAL PRACTICE OF ANESTHESIOLOGY

Course director, Richard B. Clark, M.D., *May 18, 8:00 a.m.-5:00 p.m.*, Red Apple Inn (Eden Isle), Heber Springs. Approximately seven hours Category I credit. Fee: $40 for non-ASA members. Sponsored by UAMS.

CORONARY HEART DISEASE—EVALUATION AND TREATMENT

Presented by Richard H. Martin, M.D., F.A.C.C., Little Rock. *May 21, 8:00 p.m.*, Education Building, Baxter County Regional Hospital, Mountain Home. Three hours Category I credit. No fee. Sponsored by Baxter County Regional Hospital.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.
Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
Peer Exchange, May: "Infectious Diseases," June: "Cardiology."

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Interesting Case Conference, second Tuesday and fifth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Neurology Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
General Pediatric Seminar, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Surgery Conference, each Monday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Classroom 3, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Gynecology Conference, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Dining Room.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Classroom 1, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S1174K, Laboratory.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Cancer Conference, fourth Thursday, 12:00 noon to 1:00 p.m., Room S1174K, Laboratory.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 1:00 p.m., UAMS Ed II Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Ed II Building, Room G/106.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
Interhospital GI Problems Conference, first Monday, 6:00 p.m., St. Vincent Infirmary, Classroom 3, Education Wing.
OB/Gyn Grand Rounds, each Wednesday, 4:00 p.m., UAMS Ed II Building, Room G/135.
Mental Health Services Grand Rounds, dates TBA. 10:00 a.m., Arkansas Mental Health Services Administration Building, third floor conference room.
Psychiatry Grand Rounds, each Thursday, 12:00 noon, UAMS Child Study Center Auditorium.
Psychiatry Case Conference, each Friday, 1:00 p.m., UAMS Child Study Center Conference Room.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Ed II Building, Room G/131.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS Ambulatory Care Center Eye Clinic, Room 3/150.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Ed II Building, Room G/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Ed II Building, Room G/135.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Ed II Building, Room G/135.
Orthopaedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Ed II Building, Room G/135.
Arkansas Academy of Pathology, first Wednesday, 5:30 p.m., Coy's Restaurant.
Surgical Science Seminar, each Saturday, 8:00 a.m., Ed II Building, Room G/131.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each) at 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, each once monthly, 5:00 p.m., UAMS (dates vary).
VA Psychiatry Service Lecture Series, each Wednesday, 1:00 p.m., NLRVA, Building 170.
VA Medicine Service Teaching Conference, each Monday, 3:30 p.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.

PINE BLUFF — AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME

May 2-4

Advance Directives in Medicine: Ethical, Legal and Medical Considerations. University Conference Center.

Living wills, durable powers of attorney, "no code" orders and other methods of directing one's future medical care provide the focus of this conference.

Nationally recognized scholars in medicine, law, and medical ethics will address:

—appropriate uses of advance directives
—roles of physicians, nurses, and attorneys
—economic considerations
—legislative proposals and judicial decisions, and
—liability of physicians and health care institutions

The conference has been designated the spring national meeting of the Society for Health and Human Values and is sponsored by the Division of Medical Humanities and the Office of Continuing Education for Physicians, University of Arkansas for Medical Sciences.

This program meets the criteria for 12 hours in Category I of the Physician's Recognition Award of the American Medical Association and 14 hours of Prescribed Credit by the American Academy of Family Physicians.

Registration fee: $125.00

For more information and registration materials, please contact Continuing Education for Physicians, University of Arkansas for Medical Sciences, 4301 West Markham, Slot 525, Little Rock 72205; telephone 501-661-5261 or (in Arkansas) 1-800-482-5578.

June 13-15

Annual Meeting, Arkansas Chapter, American College of Surgeons. Red Apple Inn, Eden Isle.

November 5-8

Fall Meeting, American Academy of Clinical Anesthesiologists. Resorts International Hotel, Atlantic City, New Jersey. For further information, contact AACA, Post Office Box 11691, Knoxville, Tennessee 37939; telephone 615-588-6279.



PERSONAL AND NEWS ITEMS

DR. HARDEN SPEAKS

Dr. Charles Harden of Hope was guest speaker at a recent meeting of the local Kiwanis Club. He discussed "Diseases of the Heart."

DR. BANISTER CANDIDATE

Dr. Bob G. Banister of Conway has announced his candidacy for re-election to the Board of Education for the Conway School District.

DR. HARRIS SPEAKER

Dr. Lowell O. Harris of Hope was the speaker for a wellness program on "Stress Caused by Grief" sponsored by the Medical Park Hospital.

DR. CLARK ELECTED

Dr. Joe T. Clark is the newly-elected president of the Arkadelphia Chamber of Commerce.

DR. JUSTUS SPEAKS

Dr. Michael Justus recently addressed the Malvern Woman's Club on "Stress and Depression."

DOCTORS ON PROGRAM

Doctors Ed Barron, Forrest Miller, Walter O'Neal, Art Squire, Martin Fiser and Guy Gardner were speakers for a "Runny Noses and Stuffy Chests Forum" sponsored by the Baptist Medical Center in Little Rock.

DR. WRIGHT SPEAKS

Dr. Jim Wright of Texarkana spoke on the "Growth of Open Heart Surgery" at a recent meeting of the Rotary Club.

DR. BELL CERTIFIED

Dr. Carl H. Bell, Jr., of Pine Bluff has been

certified as a master alcoholism counselor by the Arkansas Certification Board for Alcoholism Counselors.

DR. AND MRS. WALKER HONORED

Dr. and Mrs. W. L. Walker were named "Citizens of the Year" by the Brinkley Chamber of Commerce.

DR. CHAPMAN APPOINTED CHIEF

Dr. Jerry C. Chapman of Cabot is the newly-appointed chief of staff at Rebsamen Regional Medical Center in Jacksonville.

DR. AND MRS. TIRMAN IN TAIWAN

Dr. and Mrs. Robert Tirman of Jacksonville recently spent three months in Taiwan. Dr. Tirman was a member of an exchange program of the University of Arkansas Medical Services and the Kaohung Medical School in south Taiwan. Mrs. Tirman taught French to the students and professors at the medical school.

DRS. HENKER AND ECKART LECTURE

Drs. Fred O. Henker, III, and Emile P. Eckart of Little Rock presented lectures during the Founder's Day ceremonies of the Arkansas State Hospital. Dr. Henker spoke on "Psychiatry in Arkansas" and Dr. Eckart spoke on "Vincent Van Gogh, His Life, His Sickness and His Art."

DR. PARHAM LOCATES

Dr. Gordon Parham has joined Dr. Jim Thompson at 605 Lexington Avenue in Fort Smith for the practice of Family Medicine.

DR. BLUE SPEAKS

Dr. Leon Blue recently spoke to the Searcy Rotary Club on "Heart Problems and Treatments."

DR. POSEY IN CAMDEN

Dr. David Posey has joined Dr. Charles Fohn at the M & S Clinic in Camden. Dr. Posey specializes in General Surgery.

DR. BALDWIN ELECTED

Dr. Ronald Baldwin of Magnolia has been elected chief of staff at Magnolia Hospital. Others elected were Dr. Robert Hunter as secretary-treasurer, Dr. John Farmer as chief of Medicine, Dr. Scott McMahen as chief of Surgery, Anesthesia and Recovery, Dr. John Alexander, Sr., as chief of Obstetrics-Gynecology and Newborn Nursery, Dr. Thomas Pullig as chief of ICU/CCU, Dr. John Alexander, Jr., as chief of Clinical Lab and Dr. John Farmer as chief of Medical Library Services.

DR. WALLICK SPEAKS

Dr. Paul Wallick of Monticello spoke on "The Aging Heart" at a session of the "Your Heart and Your Health" series sponsored by the Drew County Extension Service, Extension Homemaker's Council, Drew County Heart Association, Drew County Health Department, Drew Memorial Hospital and Student Health Services of the University of Arkansas at Monticello.

DR. HARDEN SPEAKS

Dr. Charles Harden of Hope was a speaker for a preventative medicine discussion sponsored by Medical Park Hospital. Dr. Harden spoke on "Current Problems in Heart Disease."

MEDICAL ETHICS COMMITTEE

Rogers Memorial Hospital, in cooperation with the Medical Humanities Division of the University of Arkansas Medical Sciences Campus in Little Rock, has initiated a medical ethics committee. It is one of the first known committees such as this to be organized in a community hospital. Dr. Harry M. Harmon of Rogers has been elected to the committee.



NEW MEMBERS

DR. ROBERT G. PEDEN

Dr. Peden, a new member of the Baxter County Medical Society, is a 1964 graduate of Mississippi College. He was graduated from the Louisiana State University School of Medicine in 1968.

He served his internship and residency in Otolaryngology at Charity Hospital in New Orleans, Louisiana. Dr. Peden is board certified in Otolaryngology.

Dr. Peden practiced for eleven years in Baton Rouge, Louisiana.

Dr. Peden practices Otolaryngology in the Medical Plaza in Mountain Home.

DR. SHANNON R. CARD

Dr. Card, a new member of the Carroll County Medical Society, was born in Houston, Texas. He was graduated from Rice University in 1976 and from the University of Texas Medical School at Houston in 1979.

He served a Family Practice residency with the Baylor College of Medicine from 1979 to 1982. Dr. Card is board certified in Family Practice. He has practiced in Berryville for one and a half years.

He is associated with the Northwest Arkansas Medical Center at 207 Center in Berryville, specializing in Family Practice.

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The Craighead-Poinsett County Medical Society has six new members:

DR. MARK C. BROWN

Dr. Brown, a native of Jonesboro, was graduated from Arkansas State University in 1976. He is a 1980 graduate of the University of Arkansas College of Medicine.

His training in Family Practice was with the Northeast Area Health Education Center and St. Bernard's Hospital in Jonesboro. He is currently an Assistant Professor with the University's Family Practice Residency Program in Jonesboro. He is board certified in Family Practice.

Dr. Brown practices Family Medicine at 417 East Matthews in Jonesboro.

DR. GARY R. GOZA

Dr. Goza is a native of Paragould. He is a 1974 graduate of the Arkansas State University and a 1979 graduate of the University of Arkansas College of Medicine.

His internship in Straight Medicine was with the University Hospital. Dr. Goza trained in Medicine from 1980 to 1981 and served a residency in Neurology from 1981 to 1984 at the University. He is a Clinical Instructor with the Area Health Education Center Northeast.

Dr. Goza practices Neurology at 303 East Matthews, Suite 105, in Jonesboro.

DR. K. BRUCE JONES

Dr. Jones was born in San Juan, Puerto Rico. He was graduated from the University of Kentucky in 1975 and from Vanderbilt University School of Medicine in 1978.

Dr. Jones served his internship with the University of Louisville School of Medicine. His residency was with East Tennessee State University College of Medicine. He is certified by the American Board of Surgeons.

He practiced in Claiborne County, Tennessee, and Middlesboro, Kentucky, before moving to Arkansas.

Dr. Jones has joined the Surgical Clinic of Northeast Arkansas at 826 South Main in Jonesboro for the practice of General Surgery.

DR. DOUGLAS L. MAGLOTHIN

Dr. Maglothin, a native of Flint, Michigan, received a Bachelor of Science degree from Arkansas State University in 1976. He was graduated from the University of Arkansas College of Medicine in 1980.

His training in Family Practice was with the Northeast Area Health Education Center in Jonesboro. He is an Assistant Professor of Family Medicine with the University's Family Practice Program in Jonesboro. Dr. Maglothin is board certified in Family Medicine.

Dr. Maglothin practices Family Medicine at 417 East Matthews in Jonesboro.

DR. RANDY D. ROBERTS

Dr. Roberts was born in Hartselle, Alabama. He is a 1975 graduate of the University of Alabama in Tuscaloosa and a 1979 graduate of Vanderbilt University School of Medicine in Nashville, Tennessee. His internship and residency were with the Vanderbilt University Medical Center. He is board certified in Internal Medicine.

Dr. Roberts served a Fellowship in Rheumatology at the University of Missouri Health Sciences Center in Columbia. He has also served on the faculty of the University of Missouri.

Rr. Roberts is practicing Rheumatology and Internal Medicine with the Northeast Arkansas Internal Medicine Clinic at 311 East Matthews in Jonesboro.

DR. ANTHONY T. WHITE

Dr. White was born in Jackson, Tennessee. He is a 1975 graduate of Memphis State University and a 1978 graduate of the University of Tennessee College of Medicine.

His internship was with the City of Memphis Hospital and the Veterans Administration Hospital in Memphis, which are affiliated with the University of Tennessee. Dr. White served his residency in Internal Medicine with the same institutions. He served a Cardiology residency at the University of Tennessee from 1982 to 1984.

Dr. White was an instructor of Internal Medicine during 1982 with the University of Tennessee

College of Medicine. He is board certified in Internal Medicine.

Dr. White has joined the Northeast Internal Medicine Clinic, P.A., at 311 East Matthews in Jonesboro for the practice of Cardiology.

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DR. TIMOTHY C. ATHA

Dr. Atha has joined the Howard-Pike County Medical Society. He was born in Nashville.

Dr. Atha is a 1974 graduate of the University of Texas in Austin and a 1978 graduate of the University of Texas Medical Branch in Galveston. His internship was with the University of Florida College of Medicine. Dr. Atha received his residency training at the Shands Hospital of the University of Florida.

He practiced for one year with the Veterans Administration Hospital in Houston and for two years with the Medical and Surgical Clinic of Fort Worth. He has been in Nashville for one year. Dr. Atha is board certified in Internal Medicine.

Dr. Atha practices Internal Medicine at 900 West Leslie in Nashville.

DR. WILLIAM H. FREEMAN

Dr. Freeman is a new member of the Jefferson County Medical Society.

He was graduated in 1975 from Hendrix College in Conway and in 1981 from the University of Arkansas College of Medicine. His training was with the Area Health Education Center in Pine Bluff. He is board certified in Family Practice.

Dr. Freeman is an Assistant Professor with the Department of Family and Community Medicine of the University of Arkansas College of Medicine. His office is at 1421 Cherry in Pine Bluff.

DR. LAWRENCE F. BRADEN

Dr. Braden, a new member of the Ouachita County Medical Society, was born in Honolulu, Hawaii.

His pre-medical education was with the University of Hawaii and the University of Arkansas at Little Rock. He received a degree in Nuclear Medicine in 1976. He is a 1980 graduate of the University of Arkansas College of Medicine. His training in Family Medicine was with the University from 1980 to 1983. Dr. Braden began practicing in Camden in 1983.

He is certified by the American Board of Family Medicine.

Dr. Braden is associated with the Medical and Surgical Clinic at 415 Hospital Drive in Camden for the practice of Family Medicine.

DR. STANLEY C. BRADLEY

Dr. Bradley, a native of Fayetteville, has joined the Pope County Medical Society.

He was graduated from Arkansas Tech University at Russellville in 1977 and from the University of Arkansas College of Medicine in 1981. His training in Family Practice from 1981 to 1984 was with the Northwest Area Health Education Center in Fayetteville.

Dr. Bradley joined the Millard-Henry Clinic at 3105 West Main Place in Russellville in 1984. He specializes in Family Medicine.

DR. ALEJANDRO ARPAYOGLOU

Dr. Arpayoglou is a new member of the Randolph County Medical Society. He is a native of Montevideo, Uruguay.

Dr. Arpayoglou is a 1962 graduate of the Institute A. Vazquez Acevedo in Montevideo. He received his medical degree in 1970 from the Faculty of Medicine in Montevideo.

His internship was with the Public Health Service and University Hospital in Montevideo from 1970 to 1973. Dr. Arpayoglou received his residency training with the Middlesex General University Hospital and the Rutgers Medical School in New Jersey from 1976 to 1981. He was in private practice from 1982 to 1984 in Edison, New Jersey.

Dr. Arpayoglou has passed the qualifying examination for board certification in Surgery.

Dr. Arpayoglou specializes in General and Vascular Surgery. His office is in Suite 400 of the Doctors Office Building in Pocahontas.

DR. ROLANDO C. ASCARRUNZ

Dr. Ascarrunz is another new member of the Randolph County Medical Society. He was born in LaPaz, Bolivia.

He was graduated from the Faculty of Medicine of the University of Valencia, Spain, in 1974. Dr. Ascarrunz practiced Pediatrics for two years in Spain. His internship and residency were with the St. Francis Hospital in Evanston, Illinois. Dr. Ascarrunz served a Fellowship with the Illinois Masonic Medical Center in Chicago.

Dr. Ascarrunz practices Cardiology and Internal Medicine in Suite 500 of the Doctors Office Building in Pocahontas.

DR. JAMES M. BARRY, JR.

Dr. Barry has joined the Sebastian County Medical Society. He was born in Dallas, Texas.

Dr. Barry is a 1976 graduate of the University

of Texas. He was graduated from Baylor College of Medicine in 1979. His internship was with Baylor Affiliated Hospitals. Dr. Barry served his residency in Neurology at the Southwestern Medical School in Dallas from 1981 to 1984.

Dr. Barry has joined the Holt-Krock Clinic at 1500 Dodson in Fort Smith for the practice of Neurology.

DR. ROBERT N. BUFFALOE

Dr. Buffaloe has joined the Sebastian County Medical Society. He is a native of Nashville, Tennessee.

He is a 1973 graduate of the University of Central Arkansas and a 1980 graduate of the University of Arkansas College of Medicine. His residency was with the Area Health Education Center Northwest in Fayetteville. He is board certified in Family Practice.

Dr. Buffaloe practiced for one year in Berryville.

Dr. Buffaloe has joined the Available Medical Care Clinic at 7110 Rogers Avenue in Fort Smith. He specializes in Family Practice.

DR. RANDALL L. CARSON

Dr. Carson, another new member of the Sebastian County Medical Society, was born in Little Rock.

Dr. Carson was graduated from the University of Arkansas in Fayetteville in 1976 and from the University of Arkansas College of Medicine in 1981. His training in Family Practice was with the Area Health Education Center in Fort Smith.

Dr. Carson practices Family Medicine at 1120 Lexington in Fort Smith.

DR. DAVID W. DUFFNER

Dr. Duffner has also joined the Sebastian County Medical Society. He was born in Oklahoma City.

His pre-medical education was with Tulane University in New Orleans. Dr. Duffner is a 1979 graduate of the University of Oklahoma College of Medicine. He received his post-graduate training at Scott and White Memorial Hospital and Clinic in Temple, Texas, from 1979 to 1984.

Dr. Duffner, an Orthopaedic Surgeon, has his office in the St. Edward's Physician Building, at 7303 Rogers Avenue in Fort Smith.

DR. JEAN PIERRE MICHAUD

Dr. Michaud is another new member of the Sebastian County Medical Society. He is a native of Edmundston, New Brunswick, Canada.

Dr. Michaud is a 1972 graduate of the St. Louis College in Canada. He was graduated from Laval University Medical School in Quebec, Canada, in 1976.

His internship was with St. Francis Hospital in Quebec. Dr. Michaud received training in Orthopaedic Surgery from 1977 to 1980 with the University of Montreal. He served a Fellowship in Knee Surgery and Sports Medicine at the University of Cincinnati Medical Center in Cincinnati, Ohio.

He served on the faculty of the University of Montreal and was in private practice in Montreal from 1981 to 1983. Dr. Michaud moved to Van Buren in 1983.

Dr. Michaud has received Canadian Board Certification.

Dr. Michaud specializes in Orthopedic Surgery and Sports Medicine. His office is in the Waldron Place Medical Center at 1501 South Waldron Road in Fort Smith.

DR. GREGORY S. SMART

Dr. Smart is a new member of the Union County Medical Society.

He was graduated from Arkansas State University in Jonesboro in 1976 and from the University of Arkansas College of Medicine in 1981. His training in Family Practice was with AHEC in El Dorado.

Dr. Smart specializes in Family Practice. His office is at 704 West Grove in El Dorado.

DR. TED J. FISH

Dr. Fish, a new member of the Washington County Medical Society, was graduated from Harding College in Searcy in 1975. He is a 1979 graduate of the University of Missouri School of Medicine. His internship and residency were with the University of Oklahoma Health Sciences Center. Dr. Fish is board certified in Internal Medicine.

Dr. Fish specializes in Cardiology. His office is at 100-A East Poplar in Fayetteville.

DR. STANLEY S. SCHWARTZ

Dr. Schwartz, a new member of the White County Medical Society, was graduated from Harding University in Searcy in 1957. He is a 1962 graduate of the University of Tennessee College of Medicine and served his internship at the United States Army Tripler General Hospital. He served with the United States Army from 1962 to 1965.

Dr. Schwartz practiced in Searcy from 1965 to 1970.

He trained in General Surgery at Baptist Me-

morial Hospital in Memphis from 1970 to 1971. He was in residency training for Orthopaedic Surgery from 1971 to 1974 at Campbell Clinic in Memphis.

Dr. Schwartz joined the Searcy Medical Center at 2900 Hawkins Drive for the practice of Orthopaedic Surgery in 1984.

RESIDENT MEMBER

DR. KARMEN HOPKINS

Dr. Hopkins, a native of Lubbock, Texas, has joined the Jefferson County Medical Society. She is a 1978 graduate of Austin College in Sherman, Texas, and a 1983 graduate of the Texas Tech University of Medicine in Lubbock. Dr. Hopkins is in Family Practice training with the University of Arkansas Area Health Education Center in Pine Bluff.

Opportunities to Practice Medicine in Arkansas

BLYTHEVILLE. Blytheville has a population of approximately 25,000 with a trade area population approximately 70,000-100,000. Blytheville is located in northeast Arkansas approximately 60 miles north of Memphis, Tennessee, on Interstate 55. There is a definite need for another pediatrician. Although there are two full-time pediatricians in Blytheville, approximately one-third to one-half of the pediatric care occurs outside the Blytheville area. One of the pediatricians is interested in having a partnership immediately. The area is also in need of an internist. Office space is available and this practice opportunity includes a partial salary arrangement which will be explained on visitation. Blytheville currently has 26 practicing physicians and a 186 bed hospital. An expansion program is underway which will include a CT scanner, additional facilities and space needed for expansion in the nuclear medicine area as well as the radiology department.

PINE BLUFF. The Jefferson Comprehensive Care Center, Inc., in Pine Bluff and its satellite clinics in North Pine Bluff, Altheimer, Redfield, and College Station have salaried positions open in the areas of family practice, general practice, internal medicine, and pediatrics. The well equipped North Pine Bluff Clinic, a 7,000 square foot facility with 8 examination rooms, has a user population of approximately 5,000. The hours of practice are 40 hours per week with inpatient care, off hours and emergency room coverage. It is approximately 5 miles from Jefferson Regional Medical Center. The Altheimer satellite is 14 miles northeast of Pine Bluff and has adequate space for two physicians and includes lab and x-ray facilities. The Redfield satellite is approximately 20 miles south of the Prime Center in Pine Bluff. It has offices for two physicians, one nurses station, reception area, x-ray room and laboratory. The College Station satellite is currently undergoing extensive renovation and when completed will have two examining rooms, reception area, x-ray room, physician's office, and laboratory. College Station is a small rural community of 1,425 located just outside the city limits of Little Rock.

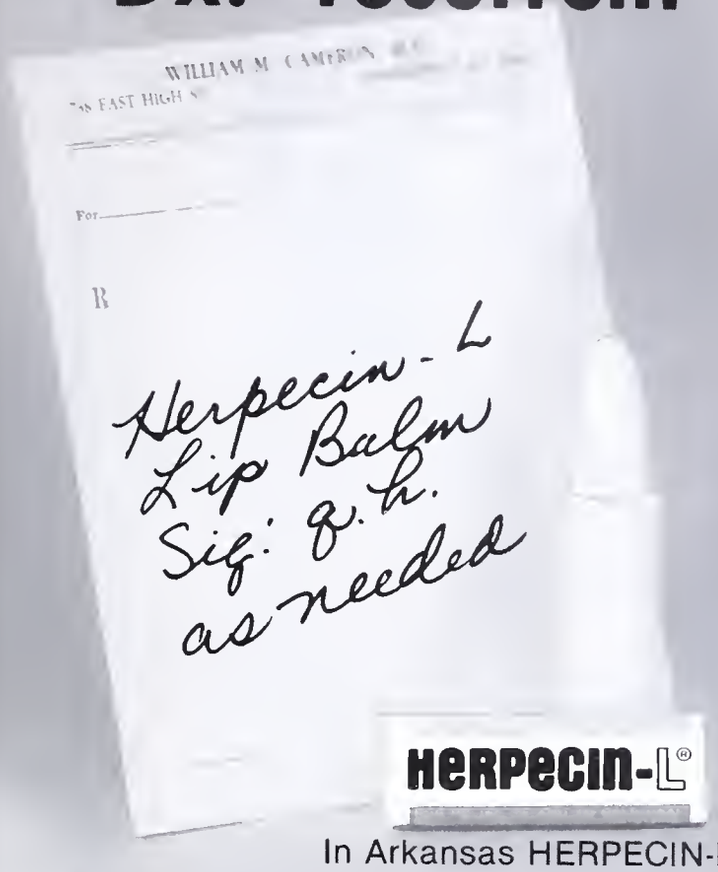
MANILA. Opportunities exist in Manila for physicians specializing in general practice, family practice and internal medicine. Population of 2,600, Manila is serviced by the Buffalo Island Community Hospital, a 32 bed primary care facility. National Health Care, Inc. is the owner of the hospital and offers a substantial first year salary, office space provided at no charge for one year and funds for necessary office personnel, one clerical and/or one nurse during the first six months. Reasonable moving expenses will be paid. The hospital itself is served by clinics located in Leachville, Monette and Caraway, each approximately 10 miles from Manila. Area hospitals are in Jonesboro, which is approximately 35 miles away, the surrounding areas of Osceola and Blytheville, and Memphis is 75 miles away.

NEWPORT. Population 9,000; trade area population approximately 45,000. Opportunities exist in family practice, pediatrics, internal medicine and cardiology. The community has two fully accredited acute care general hospitals, one 75 bed and the other 132 bed. There are currently 16 physicians serving the community. A financial incentive program is available.

PARAGOULD. Population 15,000; trade area 50,000. Paragould is located in Greene County in northeast Arkansas. Opportunities now exist with the Paragould Medical Center and other groups in the following specialties: dermatology, family practice, internal medicine and otorhinolaryngology. The city and county is served by a 129 bed non-profit community operated hospital with full facilities including a complete diagnostic laboratory, x-ray, ultra-sound, nuclear medicine, CT scanner, 7 bed ICU with arrhythmia computer monitoring, 17 bed telemetry unit, inhouse Holter scanning, cobalt therapy unit, etc. The latest hospital expansion in 1980 doubled the floor space of the institution. Paragould currently has approximately 25 physicians.

For additional information, contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902. Journal of the Arkansas Medical Society

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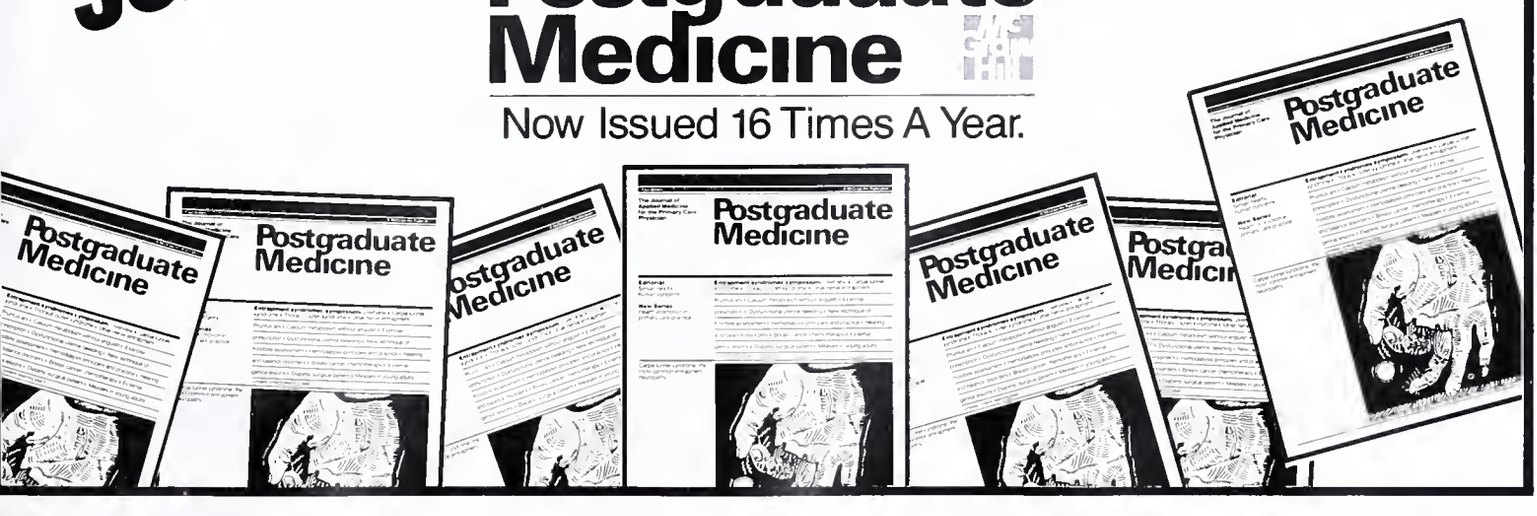
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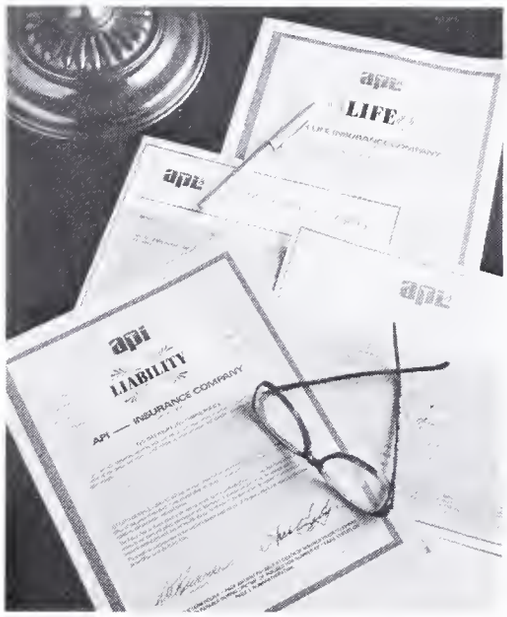
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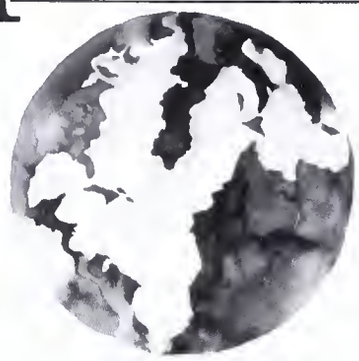
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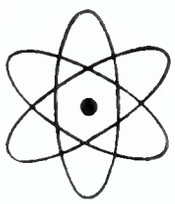
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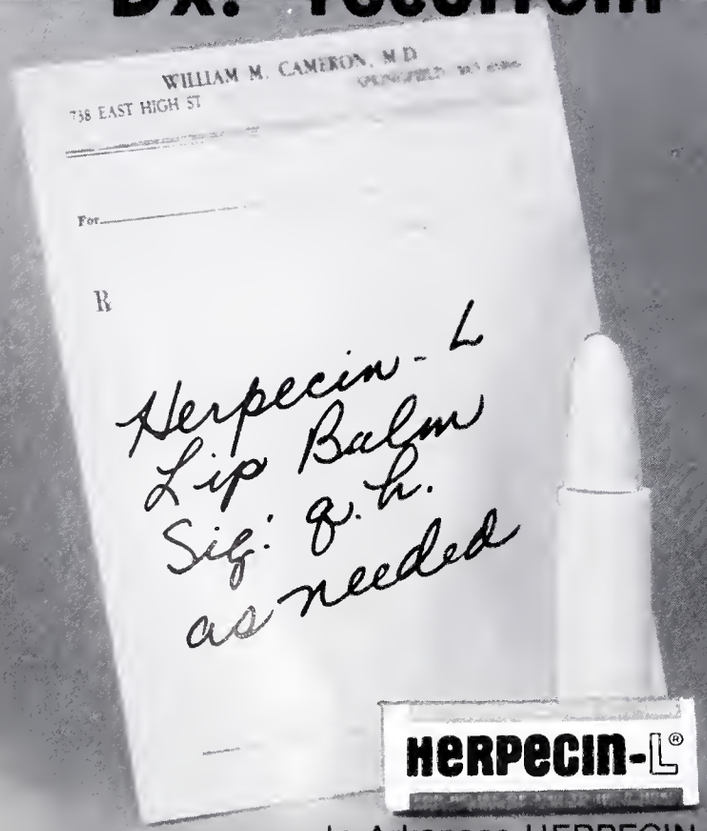
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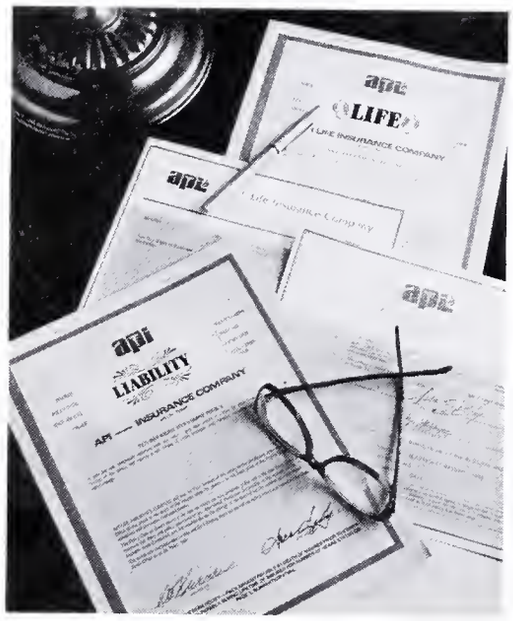
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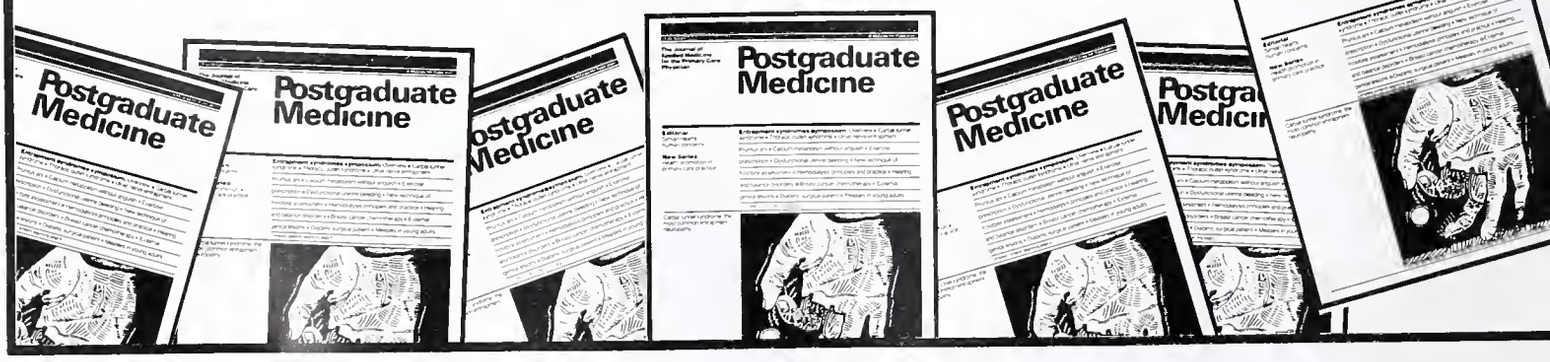
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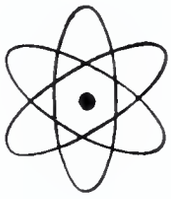
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Note: Culture and susceptibility tests should be initiated prior to and during therapy.

CONTRAINDICATIONS: In patients with known hypersensitivity to the cephalosporin group of antibiotics.

WARNINGS: *Use cephalosporin derivatives with great caution in penicillin-sensitive patients since there is clinical and laboratory evidence of partial cross-allergenicity of the two groups of antibiotics; there are instances of reactions to both drug classes (including anaphylaxis after parenteral use).* In persons who have demonstrated some form of allergy, particularly to drugs, use antibiotics, including cephradine, cautiously and only when absolutely necessary.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use. Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro*. Mild cases of colitis may respond to drug discontinuance alone. Manage moderate to severe cases with fluid, electrolyte and protein supplementation as indicated. Oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* when the colitis is severe or is not relieved by drug discontinuance; consider other causes of colitis.

PRECAUTIONS: General: Follow patients carefully to detect any side effects or unusual manifestations of drug idiosyncrasy. If a hypersensitivity reaction occurs, discontinue the drug and treat the patient with the usual agents, e.g., pressor amines, antihistamines, or corticosteroids. Administer cephradine with caution in the presence of markedly impaired renal function. In patients with known or suspected renal impairment, make careful clinical observation and appropriate laboratory studies prior to and during therapy as cephradine accumulates in the serum and tissues. See package insert for information on treatment of patients with impaired renal function. Prescribe cephradine with caution in individuals with a history of gastrointestinal disease, particularly colitis. Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms. Take appropriate measures should superinfection occur during therapy. Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

Information for Patients: Caution diabetic patients that false results may occur with urine glucose tests (see PRECAUTIONS, Drug/Laboratory Test Interactions). Advise the patient to comply with the full course of therapy even if he begins to feel better and to take a missed dose as soon as possible. Tell the patient he may take this medication with food or milk since G.I. upset may be a factor in compliance with the dosage regimen. The patient should report current use of any medicines and should be cautioned not to take other medications unless the physician knows and approves of their use (see PRECAUTIONS, Drug Interactions).

Laboratory Tests: In patients with known or suspected renal impairment, it is advisable to monitor renal function.

Drug Interactions: When administered concurrently, the following drugs may interact with cephalosporins:

Other antibacterial agents — Bacteriostats may interfere with the bactericidal action of cephalosporins in acute infection; other agents, e.g., aminoglycosides, colistin, polymyxins, vancomycin, may increase the possibility of nephrotoxicity.

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Carcinogenesis, Mutagenesis: Long-term studies in animals have not been performed to evaluate carcinogenic potential or mutagenesis.

Pregnancy Category B: Reproduction studies have been performed in mice and rats at doses up to 4 times the maximum indicated human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cephradine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

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Pediatric Use: Adequate information is unavailable on the efficacy of b.i.d. regimens in children under nine months of age.

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Children over 9 months of age — 25 to 50 mg/kg/day in equally divided doses q. 6 or 12 h. For otitis media due to *H. influenzae*: 75 to 100 mg/kg/day in equally divided doses q. 6 or 12 h but not to exceed 4 g/day. Dosage for children should not exceed dosage recommended for adults. There are no adequate data available on efficacy of b.i.d. regimens in children under 9 months of age.

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Recent Advances in the Treatment of Malignant Ventricular Arrhythmias: New Hope for Prolonged Survival

Joe K. Bissett, M.D.,* Bimlendra Sharma, M.D.,** and Joseph A. Franciosa, M.D.***

Recent developments in cardiac electrophysiology have provided new hope for the treatment and prevention of the nation's number one killer, sudden cardiac death. The development of potent antiarrhythmic agents and innovative catheter techniques for measuring the effectiveness of medical and surgical therapy have provided a firm basis for the management of life-threatening ventricular arrhythmias. The purpose of this brief review is to acquaint the practicing physician with current developments in this rapidly expanding field.

Pathophysiology of Ventricular Arrhythmias

Changes in the electrical properties of myocardium affected by infarction account for the majority of patients with lethal ventricular arrhythmias. Slowing of conduction within damaged myocardium leads to the fragmentation of electrical impulses and sets the stage for movement along pathways which may be self-sustaining (re-entry) when the long conduction time exceeds the time required for recovery (refractory period) of depolarized tissues.[1,2]

Based on these principles, there is a close relationship between myocardial infarction, residual myocardial damage, chronic electrical instability, ventricular arrhythmias and sudden death. Epidemiologic studies examining these factors have demonstrated a close relationship between reduced ventricular function and clinical manifestations of ventricular arrhythmias.

Patients resuscitated from out-of-hospital cardiac arrest have demonstrated several properties which characterize this syndrome.[3,4,5]

1) The majority of patients with sustained ventricular tachycardia or ventricular fibrillation do not have acute myocardial infarction.
2) Most of these patients have severe ventricular damage with chronic electrical instability, and are therefore at high risk for recurrent cardiac arrest.
3) Ventricular arrhythmias can frequently be reproduced in the electrophysiology laboratory so that the effects of antiarrhythmic therapy can be tested and verified.

Approach to the Patient with Malignant Ventricular Arrhythmias

Step I: Identification of Patients at High Risk for Sudden Cardiac Death

The majority of patients with sudden cardiac death have severe atherosclerotic disease. Autopsy studies have demonstrated that three-vessel coronary disease (left anterior descending, circumflex, and right coronary) is present in approximately two-thirds of these patients with more than 90% demonstrating significant narrowing of the left anterior descending coronary artery.[6] The usual presentation to the physician in the emergency room or clinic is a patient with sudden cardiac collapse whose electrocardiagram has demonstrated ventricular fibrillation or sustained ventricular tachycardia. Successful conversion to sinus rhythm by electrical cardioversion or an arrhythmic drug such as Lidocaine or Bretilium can be accomplished in most patients. Serial electrocardiograms should be obtained, but will frequently not demonstrate evidence of infarction. In a review of patients resuscitated following a cardiac arrest, only 20% had electrocardiographic changes of acute myocardial infarction.[7]

Management of this syndrome is based on understanding of the pathophysiology of malig-

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nant ventricular arrhythmias as outlined above as well as an understanding of the prognosis of these patients. Previous studies have demonstrated a high rate of recurrence of ventricular fibrillation following successful cardiopulmonary resuscitation. A previous study has reported a mortality rate at one year in the range of 25% and at two years approximately 35%.[8] A more recent report documented a 10% rate of recurrence of cardiac arrest in the first year with a 5% year rate in each of the next three years.[9] It is clear that the predisposition to recurrent malignant ventricular arrhythmias continues following successful resuscitation and therapy must be directed towards prevention of recurrence.

Although patients with ventricular fibrillation and sustained ventricular tachycardia in the absence of acute infarction constitute the primary population at risk for sudden cardiac death, the risk is also increased in patients with non-sustained ventricular tachycardia with known coronary disease. The long-term outlook for these patients is less clear, however, the mortality rate in patients with non-sustained ventricular tachycardia and known coronary disease is clearly increased.[10]

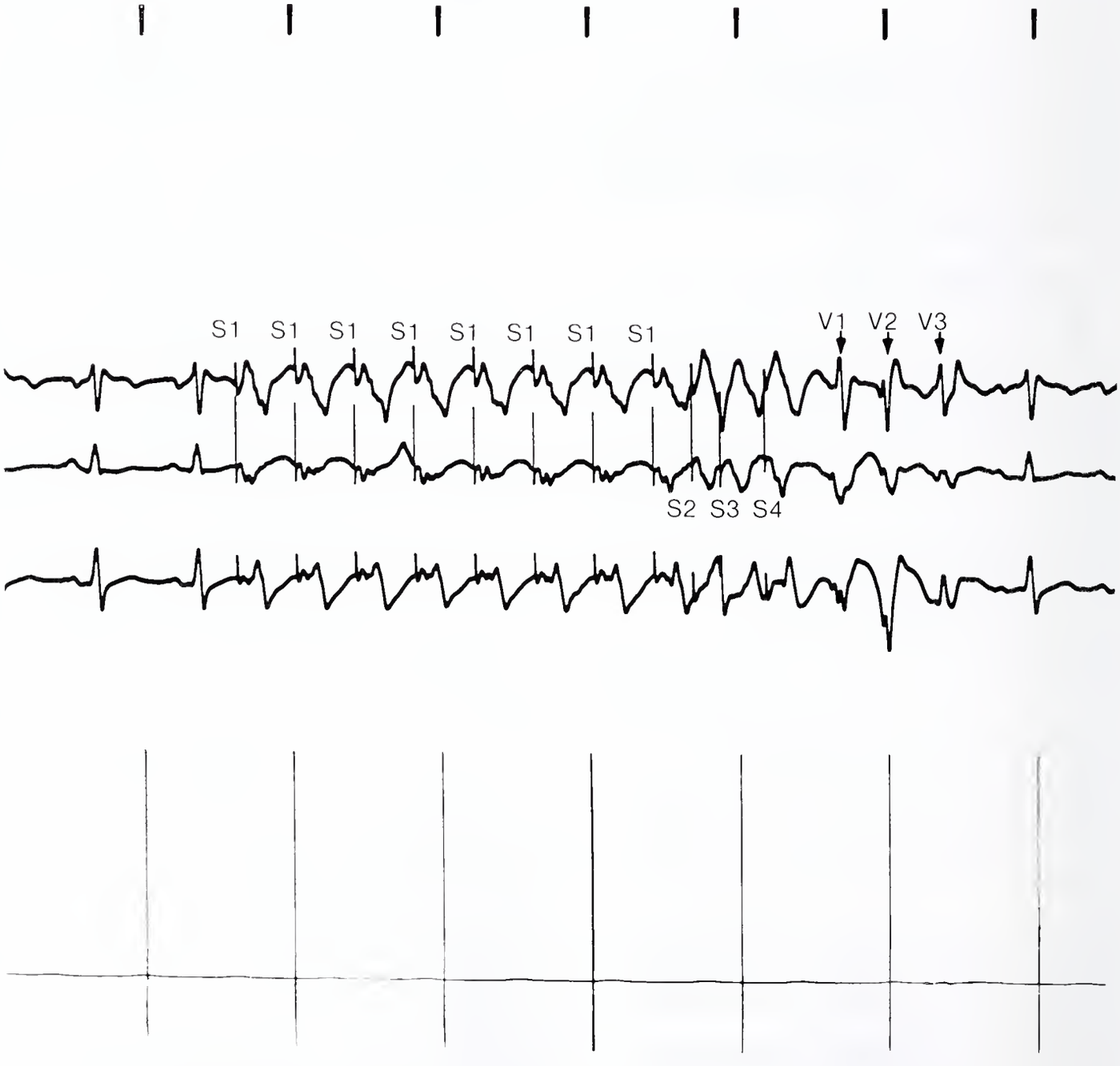


Figure 1.

STANDARD PROTOCOL FOR ELECTROPHYSIOLOGIC STUDYING. Utilizing a catheter in the right ventricle, eight stimuli are introduced (S1) followed by three premature ventricular stimuli (S2,S3,S4). Stimulation is then terminated automatically. A group of three ventricular beats is observed (V1,V2,V3). This type of response is sometimes seen in patients without significant heart disease.

Step II: Electrophysiologic Studies in Patients with Malignant Ventricular Arrhythmias

Clinical experience has suggested that ambulatory (holter) monitoring techniques and exercise testing are inadequate guides for diagnosis and treatment of malignant ventricular arrhythmias.[11] Advanced grades of premature beats may occur sporatically and patients may not experience episodes of ventricular tachycardia during holter monitoring or exercise testing. Many authorities working in this area feel that direct electrical stimulation of the heart is required to determine the vulnerability of the patient to repeated episodes of malignant ventricular arrhythmias.

Electrical stimulation of the heart (Figure 1) is accomplished by a programmable external pacing device capable of stimulating the heart at a fixed rate followed by introduction of one or more premature stimuli. The technique of the study is as follows: A pacing catheter is inserted into the apex and/or outflow tract of the right ventricle. Other electrode catheters may be positioned in the high right atrium, low right atrium and coronary sinus for recording. Studies are usually performed at pacing rates of 100 and 150 beats per minute. As shown in Figure 1, following 8 paced beats,[1,2,3] premature stimuli are introduced. Premature pacing impulses are then brought closer to the basic QRS until the ventricle is incapable of electrical conduction (ventricular effective refractory period). Utilizing these techniques with right ventricular extrastimuli as well as left ventricular stimulation when required, ventricular tachycardia can be reproduced in more than 90% of patients who present with sustained ventricular tachycardia and 80% of patients who present with cardiac arrest.[12]

The risk of performing this study may be the same as or less than that for performance of ordinary catheterization studies (mortality estimated to be 1 per 1,000). The author has experienced no fatalities during procedures of this type.

Figure 1 illustrates the type of response as obtained in some patients. Following the third premature ventricular stimulus labeled S4, a sequence of three ventricular beats occurs. This type of non-sustained ventricular tachycardia does not carry the same implications as sustained ventricular tachycardia or ventricular fibrillation produced in patients vulnerable to this type of arrhythmia.

Step III: Choice of an Appropriate Antiarrhythmic Regimen for Patients with Previous Cardiac Arrest

In patients with known cardiac disease and previous episodes of ventricular tachycardia or ventricular fibrillation, most physicians choose a type I antiarrhythmic agent such as procainamide, quinidine, or disopyramide. A commonly used regimen is 500mg every 6 hours of sustained release procainamide preparation. Following administration of procainamide or similar drug, the electrophysiologic study is usually repeated after the patient has received the drug for 4 to 6 half-lives. In the case of procainamide, a half-life of approximately 6 hours suggest that a repeat study could be performed in one or two days. Additional drug regimens include the combination of a type I antiarrhythmic agent with an oral Lidocaine-like agent such as Mexiletine or the recently released drug tocainide.[13] Tocainide is a primary amine analog of lidocaine which produces adequate oral absorption when administered in doses of 400 to 600mg every 8 hours. Therapeutic plasma levels are in the range of 6 to 12 micrograms per milliliter. The half-life of elimination is approximately 14 hours. Side effects of this drug are similar to those observed with lidocaine and include nausea, vomitting, tremor, confusion, parethesis, dizziness and diplopia. Pulmonary fibrosis has been described.[14] Mexiletine is also similar to lidocaine in many of its electrophysiologic effects. This drug has not yet been released by the Food and Drug Administration as of this report. Mexiletine is ordinarily given in doses of 200 to 300mg every 6 to 8 hours and is eliminated by hepatic metabolism. Therapeutic plasmal levels are 1 to 2 micrograms per milliliter.

Following selection of an initial drug regimen, the electrophysiologic study is repeated. Failure to induce sustained ventricular tachycardia or fibrillation following a successful antiarrhythmic regimen is predictive of a favorable therapeutic response in most patients. The ability to induce sustained ventricular tachycardia or malignant ventricular arrhythmias in patients receiving standard drug regimen predicts an inadequate response, continued vulnerability to sudden cardiac death, and the need for additional therapeutic measures.

Step IV: Therapeutic Measures for Patients with Refractory Ventricular Arrhythmias

Many patients with ventricular arrhythmias for refractory to usual therapeutic regimen can be controlled with the experimental agent Amiodarone. Amiodarone is a benzofuran derivative initially introduced as a coronary vasodilator and smooth muscle relaxer.[15] This drug is a potent antiarrhythmic agent which affects conduction within atrial tissue, ventricular muscle and cardiac purkinge fibers. The drug is effective against both supraventricular and ventricular tachyarrhythmias, but has a number of important side effects. The drug produces corneal micro deposits, neuromuscular disturbances, hepatic enzyme abnormalities, hyper or hypothyroidism as well as pulmonary alveolitis and fibrosis. Sinus bradycardia has been reported. Amiodarone may also elevate serum digoxin levels and potentiate the anticoagulant effects of some oral anticoagulants.

In spite of the large number of toxic effects, Amiodarone remains an important therapeutic agent which may prevent malignant ventricular arrhythmias when other agents have been ineffective. The drug has an extremely long half-life so that steady-state plasma concentration may be reached at intervals as long as two to four weeks after oral administration. The elimination half-life ranges between 30 and 50 days. Patients are usually given a loading dose of 1200mg per day for one week followed by maintenance doses of 400 to 800mg per day. In the author's experience, Amiodarone has been extremely effective in patients with refractory ventricular arrhythmias and should be considered in every patient with out-of-hospital cardiac arrest who continues to have inducible ventricular arrhythmias on standard drug regimens.

Additional therapeutic options are available for patients who do not respond to any antiarrhythmic agent. Endocardial mapping to identify the earliest site of ventricular activation during sustained ventricular arrhythmias may be followed by operations which include endocardial resection as well as exclusion of the arrhythmia producing area by endocardial incision. Aneurysmectomy has been effective in some patients, particularly when combined with endocardial mapping.

Electrical devices for termination of ventricular arrhythmias are currently under investigation. Use of implantable defibrillator has been reported to be effective in a few instances and an implantable device for cardioversion of ventricular tachycardia is under investigation in some centers. Use of these devices remains experimental, however, this is a promising therapeutic option for patients whose ventricular arrhythmias remain refractory to other measures.

SUMMARY

In summary, the use of electrophysiologic study with arrhythmia induction and therapy based upon arrhythmia suppression is an important advance in the treatment of patients with malignant ventricular arrhythmias. Studies in the author's laboratory have demonstrated that many patients have inducible ventricular arrhythmias on standard antiarrhythmic programs and remain at risk for sudden cardiac death. Amiodarone is available for these patients and appears to be a successful therapeutic option in many instances. The implantation of electrical devices for arrhythmia detection and determination will assume an increasing role as these methods are perfected.

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Urinary Incontinence in the Elderly

Edward J. McGuire, M.D.*

INTRODUCTION

Urinary incontinence in elderly men and women is a major health problem which contributes to the process of institutionalization.[1,2] The treatment of urinary incontinence, using catheters in many instances, leads to more problems than it solves.

We studied 219 patients born before 1915 urodynamically in an effort to get more information on the underlying etiology of incontinence in an elderly population. Treatment of incontinence was predicated on urodynamic findings. There were 161 women and 48 males.

MATERIALS AND METHODS

After a history and physical examination, a urine analysis, urine culture, and urodynamic evaluation were performed. This consisted of the simultaneous recording of bladder pressure, urethral pressure, and perineal floor EMG during bladder filling and detrusor contractile activity. The process was visualized fluoroscopically. Urethral sphincter function was assessed during filling—and in response to stress, in the upright position under fluoroscopic monitoring, by urethral pressure profilometry. Obstructive uropathy was confirmed with flow profilometry.

FINDINGS

Females

Symptoms:

Most women complained of urgency, frequency, and incontinence which usually was not described accurately enough for the examiner to use the patient's description in differential diagnosis. 10% of these women were said to be incontinent by family members or nursing home personnel but that diagnosis could not be confirmed by questioning the patient who denied the symptom or minimized it.

One third had already had some operative procedure on the bladder or urethra. Using history and physical findings, we were unable to predict the eventual urodynamic diagnosis in 50% of these women.

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TABLE 1
URODYNAMIC DIAGNOSES IN ELDERLY WOMEN

	#	%
Unstable bladder (A contraction without its owner's permission)	83	51.5
Urethral Incompetence Stress incontinence due to poor support, or lack of urethral closing pressure, with visible (fluoroscopic) leakage with stress	75	46.5
Others—frank neurogenic bladder, overdistention, etc.	3	2

The majority of women suffered from an unstable bladder. This we defined as sudden bladder contractility or a sudden fall in urethral closing pressure with cessation of EMG activity during filling. In 15% of women with unstable bladder dysfunction, clear urodynamic incidence of urethral obstruction was present (elevated bladder pressure-prolonged detrusor contraction and a fall in flow urethral profile pressures of 30 cm. H_2O or greater across the obstructive lesion). In seven women the obstruction was at the bladder neck or mid-urethra; in the others at the distal urethral segment.

Urethral incompetence, as the primary cause of incontinence, occurred in 46.5%. Of this group roughly 30% had classic urethral motion related incontinence, which was diagnosed fluoroscopically by the findings of posterior and inferior rotational descent of the urethra into the vagina with anterior sagging or prolapse of the vaginal wall, with stress, with visible urine leakage at that time. The remaining 60% had gross urethral incompetence with a fixed open vesical outlet or weakness of the proximal urethra with pressures ranging from 0-5 cm. H_2O. No proximal urethral closing function, and a wide open, fixed outlet was associated with failure of a prior operation(s) or a neurogenic condition while simple sphincter weakness without urethral hypermobility was not.

In 2%, overt neurogenic vesical dysfunction associated with diabetes, peripheral neuropathy, or central neuropathy was the cause of the incontinence. This group, although small, was diagnosed exclusively urodynamically as there

were no distinguishing historical features or findings on examination which suggested the diagnosis.

Treatment and Response:

Simple bladder instability defined as occurring without obstruction and without stress urinary incontinence, was present in 81% and had an overall response rate to anticholinergic therapy and timed voiding of 79%. Urodynamic findings including bladder capacity, age, other medical problems, as well as senile and presenile dementia did not appear related to response rate.

Complicated instability or that associated with urethral obstruction or poor urethral compliance occurred in 15% which responded to dilatation or urethrotomy in 86%.

4% of women with detrusor instability had a large volume bladder capacity and residual urine volumes greater than 20% of the volume required to initiate a contractile response. These women were treated with intermittent catheterization, or urecholine and timed voiding, or all three. All responded.

TABLE II
MALES — URODYNAMIC FINDINGS

	#	%
Bladder unstable	19	40
Urethral incompetence	15	30
Neurogenic conditions	14	29

About 40% of males had an unstable bladder and roughly 1/3 urethral incompetence and another 1/3 overt neurogenic vesical dysfunction resulting from a peripheral or central neural disease or injury. As with the females, historical detail and physical examination were not accurate in suggesting diagnosis.

Treatment and Response:

Bladder Instability. In 63% this was associated with prostatic obstruction which, when relieved by operation (or medication in two patients), resolved in 83%. In 37% the problem was simple instability which responded to medication and timed voiding in 83%. Three of these seven had already had a prostatectomy.

Urethral incompetence in 15 males was related to prostatectomy in 12 or 80% and 20% had a satisfactory response to treatment (artificial sphincter, medication or Teflon injection). In three patients the urethral incompetence was neurogenic or idiopathic and a response to medication (alpha adrenergic agents) occurred in two.

Neurogenic vesical dysfunction which occurred in 11 men followed prolonged overdistention, pelvic operative procedures, lumbar disc herniation and in 90% responded to intermittent catheterization and medication. Eleven of these patients had already had one or more prostatic operations which failed to improve the condition.

DISCUSSION

About 1/2 the elderly women with incontinence had detrusor instability and most of the remainder urethral dysfunction. In those with urethral dysfunction, 30% had bladder instability as an additional problem which in 90% cleared spontaneously with resolution of the urethral problem. Urethral dysfunction was less commonly classic stress urinary incontinence related to loss of urethral support in these elderly women, than total loss of urethral closing pressure or poor proximal urethral function. Motion related stress urinary incontinence responded to an operation. Total urethral functional loss was treated by pubovaginal sling. Both procedures have a 90+% response rate.[3] Poor closing pressure responded to estrogen and imipramine in 83%. The differential diagnosis is important, but need not be complicated. Upright cystourethrography is accurate and simple to perform. Bladder instability responds to timed voiding and anticholinergic agents about 80% of the time. It is not clear why 20% do not respond at this time. We have been unable to find any predictive factor in the urodynamic findings. Overall responses are improved by timed voiding schedules, even without drugs. This allows volitional voiding and prevents sudden volume related, no warning detrusor contractility.

It is important to select out women with obstructive uropathy or high volume detrusor instability by urodynamic testing since the treatment is different and none respond to anticholinergic agents.

Males in this study suffered from urethral incompetence, detrusor instability, and overt neurogenic vesical dysfunction. Bladder instability was often related to obstructive prostatism. Overall response rates to surgery or medication are almost identical to females. Incontinence due to urethral lesions, most often the result of prostatectomy, had a poor overall diagnosis. Neurogenic vesical dysfunction had previously been mis-

identified as obstructive prostatism in 14 of 17 patients. TURP did not improve symptoms while intermittent catheterization was remarkable effective once the condition was identified.

These findings suggest that some urodynamic testing is helpful in elderly patients with incontinence and can be decisive. It cannot be assumed that all or even most elderly patients suffer from simple detrusor instability and some effort to identify obstructive uropathy or urethral incompetence, or syndromes of complicated detrusor instability is useful.

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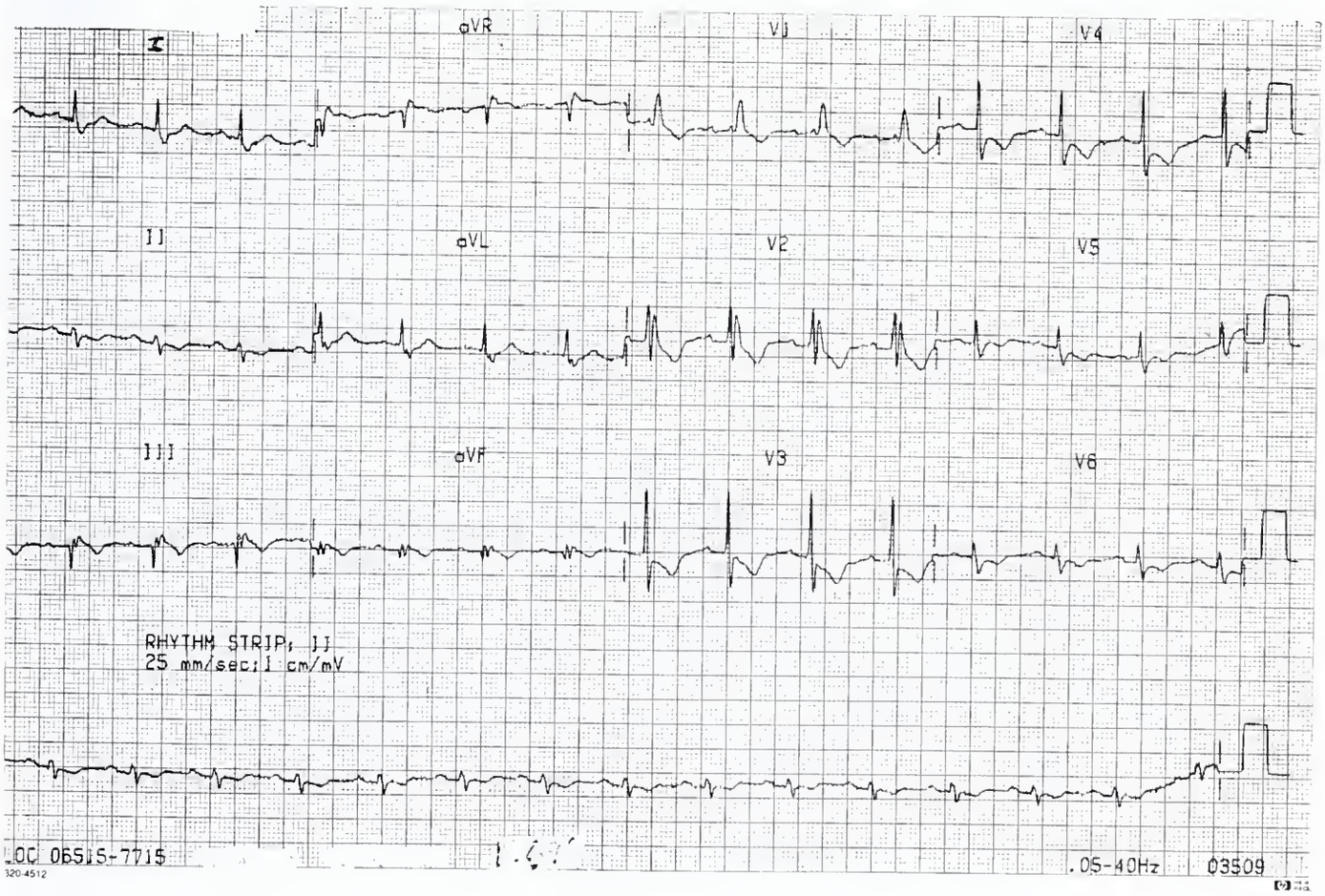
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 646)

HISTORY: T. R. is a 42-year-old man who has presented to the emergency room because of chest pain. He has a history of smoking and hypertension and has used coffee to excess in the recent past. His physical examination reveals hypertension, a soft S_1, wide but proper splitting of S_2, and an S_3 gallop. His ECG is shown. Making use of the available information, what do you think about the trace as it relates to the clinical picture?



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Office Orthopaedics

Frostbite

I. Leighton Millard, M.D.*

According to Dorland's Medical Dictionary (26th Edition), frostbite is defined in two parts. Superficial: damage resulting from exposure to low temperatures involving only the skin or extending to the tissue immediately beneath it; manifested as erythema, transient anesthesia and superficial bullae. Deep: damage resulting from exposure to extremely low temperatures involving not only skin and superficial tissues but also deeper tissues, sometimes leading to gangrene and loss of affected parts; it is marked by persistent ischemia, secondary thrombosis and livid cyanosis. The term frostnip is used by some to denote the condition of numbness and tingling of exposed parts of the body that does not proceed to tissue damage.

The very cold weather that has afflicted Arkansas during January and February of this year brought to my mind the problem of frostbite. A brief review of my records does not indicate that any cases have been treated by the Little Rock Orthopedic Clinic. Nevertheless a brief review of this problem seems in order.

The treatment of cold injury starts, as in any emergency, with a determination of the condition of the patient. Body cooling and loss of heat with exhaustion of caloric reserve and severe depression of core temperature may lead to death. Core temperature control is unstable and often absent at temperatures below 94 degrees Fahrenheit. Continued cooling may result in coma and cardiorespiratory failure at any level between 94 degrees and 88 degrees.

In cases of general body cooling resuscitation measures should include: intravenous glucose and water, oxygen therapy with intubation or tracheostomy, and careful monitoring of electrolytes and blood pH. Defibrillation equipment should be ready. The patient should also be watched closely for complicating factors of anoxia secondary to alcohol or drug stupor. Blood loss secondary to trauma must be corrected and fractures and/or dislocations treated by simple immobilization with well padded splints. It is especially important to avoid further trauma to frostbitten extremities.

From reviewing past research and literature and from techniques used in hypothermic surgery, it appears that rapid thawing with hot packs and blankets or rapid thawing in a warm tub is the treatment of choice for cold injury. The warm water bath, 90 to 106 degrees Fahrenheit (32 to 37.7 degrees centigrade) will produce a dramatic change in the patient's responsive state. Pain will require analgesics and sedation. This treatment may allow liberation of acid end products and acidosis may appear in one to two hours and must be corrected quickly. Delayed thawing (room temperature) may give similar problems at 24 to 48 hours post-thawing. Rapid rewarming or thawing seems to demonstrate greatest tissue preservation and the most adequate early function in cases of deep injury. In cases of superficial cold injury gradual thawing produces satisfactory results if we carefully define what room temperature means. A cool mountain cabin with a very hot fireplace may cause more tissue damage instead of thawing. A thermostatically controlled hospital room at 68 to 72 degrees Fahrenheit will produce good thawing. Dry heat at temperatures of 150 to 180 degrees Fahrenheit usually produces more tissue damage than thawing. By any means possible, refreezing and rethawing must be prevented.

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Massage must not be used during the thawing treatment.

In post thawing treatment of deep injury the extremities should be kept on sterilized sheets with "cradles" but no occlusive dressings, ointments or salves should be used. Whirlpool baths BID for twenty minutes at temperatures of 90 to 95 degrees with addition of hexachlorophene or betadine should be used. All blisters or bullae should be left intact unless they become infected. Warm water cleansing and debridement by whirlpool and open treatment will keep infection at a minimum and antibiotics are usually not required.

Wet clothing, boots or socks make the effects of cold injury worse and should be removed as soon as possible. Do not massage injured parts.

In extended cold injury of an extremity, compartment syndrome may result even after rapid rewarming treatment. In these cases, fasciotomy is indicated.

In the very early stages of cold injury, sympathetic blocks, sympathectomy, anticoagulants, vasodilators, alcohol and enzymes have not been shown to be effective. In cases of severe bilateral deep injury however sympathectomy in the first 24 to 48 hours does benefit in decreasing pain, decreasing edema, lowering incidence of infection, and producing earlier and more proximal tissue demarcation.

Amputation should be delayed until sufficient time (often thirty to ninety days) elapses to



demonstrate mummification and tissue death with no danger of further tissue retraction. Guillotine amputation with secondary closure is usually the best procedure.

Necrotic areas of skin requiring grafting can be treated by split or full thickness or pedicle grafting as soon as all eschar is debrided and a clean granulating base is present.

CONCLUSION

Cold injury (frostbite) is not common in Arkansas but can be quite a serious problem. This brief clinical review covers the basic principles of treatment.

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ANSWER—Electrocardiogram of the Month

DISCUSSION: The trace reveals sinus rhythm, left axis deviotian, first degree AV black, right bundle branch black, and ST-T changes that are campatible with ischemia. The soft S_1, the splitting of S_2, and the S_3 gallop may respectively be related ta first degree black, right bundle branch black, and hypertensian and/ar ischemia. This trace is starkly abnarmal and one wauld feel constrained to admit the patient far abservatian.



EDITORIAL

Biologic Effects of Alcohol

Alfred Kahn, Jr., M.D.

A wag once jokingly said something to the effect of "if human beings did not have alcohol, it would be important for them to invent it." The sociological and biological effects of alcohol are extremely far reaching in our society. The effects of alcohol sociologically are widely known —it is a marked cause of loss of productivity; it is a major cause of highway deaths, and so on. Yet, almost every society uses some form of alcohol and often with ill effects far beyond the obvious; for example, it is a well-known fact that in certain individuals alcohol may cause hypoglycemia, which in turn may be symptomatic.

Saunders, Beevers, and Paton (LANCET, p. 653 9/26/81) have written an article entitled "Alcohol-Induced Hypertension." They site the fact that hypertension is high in alcoholics and heavy drinkers, and interestingly the level of blood pressure seems to relate to the severity of the symptoms of withdrawal from alcohol. Saunders, et al, studied the blood pressure of 132 alcoholic patients who ingested more than 80 grams of alcohol per day. Men out numbered women about three to one in their group and the mean age was 44 years. They stated that there was a significant correlation between the blood pressure and the mean daily alcohol intake. They further stated that when the patients were taken off of alcohol their blood pressures tended to revert to normal; as the abstaining person began to drink again, the blood pressures tended to rise. Sanders, et al, felt that high alcohol intake might be the result of as many as 25%-30% of the cases of what are presumed to be "essential" hypertension. Their studies did not throw any light on the mechanics whereby alcohol produced hypertension. They found that beta-adrenergic blocking drugs were often helpful in controlling the symptoms found when alcohol was withdrawn. In their experiment, hypotensive therapy was not very satisfactory in the control of hypertension produced by alcohol.

"Alcohol Consumption and Premature death in middle-aged Men" is the title of the article by Peterson, Kristenson, Sternby, Trell, Fex, and Hood (BRITISH MEDICAL JOURNAL, p. 1403 6/14/80). The authors screened all the men living in Malmö, Sweden who were born in 1926, 1927, 1928, and 1929; these individuals were assessed for the amount of alcohol consumed and they were tested for gamma-glutamyltransferase activity (GGT). These subjects were followed for approximately four years and were studied from a morbidity and mortality point of view. They concluded that evidence of alcohol abuse or an alcohol-related cause of death was present in 61% to 62% of the deaths which they were able to trace. They also report that the GGT test was elevated in 46% of those who died. They felt that the GGT test provided an objective index of alcohol consumption—but was uncertain as to its exact value. Peterson, et al stated that "heavy alcohol consumption was the single most important factor associated with a pre-mature death in these middle-aged men." Consider that this was a prospective study and involved a large number of individuals, it has statistical value.

A similar article was written by Kozararevic, McGee, Vojvodic, Racic, Dawber, Gordon, and Zukel; it was published in THE LANCET (p. 613, 3/22/80). This was a study on 11,121 Yugoslav males between the ages of 35 years to 62 years. They found that although the consumption of alcohol appeared to be inversely related to coronary disease, it was not inversely related to dying. In their paper, they discussed the fact that alcoholism seemed to be associated with an elevation of blood pressure. The elevation of blood pressure in turn produced an increase in the number

of deaths from strokes. As alcohol was indirectly responsible in an increase of strokes, they discussed the fact that there is evidence of an association between alcohol and cancer of some area of the body; mouth, pharynx, larynx, and esophagus —but they did not have any statistical evidence to this point. Their studies did tend to point out an association of alcoholism and coronary heart disease, which other authors have commented. They did not suggest any way the idea that individuals should use alcohol to prevent coronary heart disease since alcohol might contribute to their death in some other manner.

There have been a number of articles in medical journals on sleep apnea in the context of problems with alcoholic consumption. There is an interesting article "Alcohol Increases Sleep Apnea and Oxygen Desaturation in Asymptomatic Men" by Taasan, Block, Boysen, and Wynne (THE AMERICAN JOURNAL OF MEDICINE Vol. 71, p. 240 10/81) To begin with, they stated that alcohol alters the sleep Electroencephalogram, and they also point out that loud snoring may be common during sleep after the ingestion of alcohol. Snoring is sometimes an important hallmark of arterial oxygen desaturation. To study this in complete detail, 20 asymptomatic men were studied on two different nights—on one night they were given a placebo; on another night they were given alcohol. They monitored the respiratory patterns, oxygen saturation, and sleep Electroencephalogram. They concluded that even asymptomatic men tend to have oxygen desaturation after the use of alcohol; their sleep patterns were disordered. It was of interest that these alterations occurred not alone on the night of the ingestion of alcohol, but on the night following the ingestion of alcohol. The episodes of oxygen desaturation altering sleep patterns occurred simultaneously in some individuals, but occurred separately in others. The authors do not know if the findings noted in sleeping individuals are applicable to individuals in a waking state.

Another aspect of alcohol metabolism has been reported by Tuma and Sorrell in GASTROENTEROLOGY, Vol. 80, p. 272, 2/81); it is entitled the "Effects of Ethanol on the Secretion of Glycoproteins by Rat Liver Slices." The authors used the rat liver as an in-vitro method of studying the effects of ethanol on the liver's ability to synthesize glycoproteins. Their study clearly indicated that ethanol inhibited the manufacture of hepatic glycoproteins. This finding might help explain some of the altered protein mechanisms seen in alcoholic human beings.

Lastly, there is a splendid review article under the general heading of Medical Progress in THE NEW ENGLAND JOURNAL OF MEDICINE by Mendelson and Mello entitled "Biologic Concomitants of Alcoholism" (Vol. 301, p. 912, 10/25/79). Their review indicates that alcohol may involve certain genetic factors. Several series are said to show that individuals with alcoholism tended to have an increased number of parents who have had alcoholism compared to the public at large. This seems to be clear in men, however, the genetic basis of alcoholism is not clear in women. Mendelson and Mello definitely state that alcoholism in the biological parent is a more reliable predictor of alcoholism in the children than environmental factors. The authors have searched the literature for a biological marker for alcoholism, but they were unable to be absolutely certain that any have been discovered to this point. The manner in which alcohol is metabolized does not seem to play a particular role in the tendency for certain groups to have a high incidence of alcoholism—Indian, Caucasian, Chinese, etc. The authors did find that the use of alcohol did increase the rate of alcohol metabolism, but there was no apparent racial pattern of metabolism. One study referred to in this article concerned the flushing response and the consumption of alcohol. It is said that people of Oriental extraction have a greater flushing response to alcohol as compared to a Caucasian group. The significance of this is unknown. As noted above, some individuals who use alcohol in large amounts definitely develop tolerance to alcohol, and it is said that "during chronic drinking, the alcohol addict could conceivably catabolize twice as much alcohol as the naive drinker." Physical dependence on alcohol seems to be a definite characteristic and withdrawal syndrome occurs in individuals who used large quantities of alcohol regularly. There are studies available on the effects of alcohol on the pituitary and gonadal hormones. Alcohol liver disease is associated with gynecomastia more frequently than non-alcohol liver disease. The administering of alcohol under research conditions to human male subjects indicated that alcohol definitely results in a dose-dependent decrease in testosterone levels; this is said to be an interaction between several biologic

activities including: altering Vitamin A metabolism, decreased testesterone production, and increased destruction of testosterone. Alcohol tends to decrease libido and it is not known if this is solely the effects of the hormone changes or not. There are now studies on alcohol effects on behavior. Chronic alcoholism is said to increase depression and anxiety, which seems to be rather surprising in view of the previous teachings. The incidence of suicide behavior increases with alcohol levels. Alcohol does not increase socialization.

In short, the use of alcohol in our civilization is wide-spread. The excessive use of alcohol is also wide-spread. The effects of excessive alcohol goes far beyond simple behavior problems as these few articles from a voluminous literature attest.



"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Journal of the Arkansas Medical Society
Vol. 5 No. 3 Dec., 1894 p. 123-4
County Societies.

———

Sebastian County.

Dr. Epler presented some specimens of urine from continued fever cases to which Echerlich's typhoid fever test had been applied, and stated that in a number of cases tested it had responded in a manner which it would seem ought to give it a position of considerable importance in the diagnosis of typhoid fever. The directions for its employment are as follows:

SOLUTION A.

Acid hydrochloric, 1 part.
Distilled water, 20 parts.
Sulphuritic acid, qs. to saturation.

SOLUTION B.

Sodium nitrate, 1 part.
Distilled water, 20 parts.

Take forty parts of solution A, and one of solution B, mix and add one c. c. to test tube half full of urine; add to this sufficient aqua ammonia to render it alkaline, when, if the disease be typhoid fever, the foam which gathers will appear as caesine red, changing to garnet red. After this stands three or four days an olive-green deposit appears.

With two exceptions, every regularly graduated physician in Fort Smith belongs to the Sebastian County Medical Society, besides all the best physicians in the county outside of Fort Smith, are members. Our society was organized in 1874, and excepting one or two short intervals, several years ago, has met regularly ever since.

Fort Smith has one homeopath, three eclectics and about twenty-five regulars.

MEDICINE IN THE NEWS

THE MONTH IN WASHINGTON

President's Budget Again Would Cut Medicare/Medicaid

As has each budget since his first election, President Reagan's fiscal 1986 budget proposal includes substantial cuts in Medicare and Medicaid.

For Medicare, some $4.2 billion in first-year savings would be achieved by increasing beneficiary premiums, reducing funding for graduate medical education, and freezing payments to hospitals, physicians, clinical labs, nursing homes, and other providers. The federal Medicaid contribution would be capped to save $1 billion in 1986.

All told, the proposed budget reduces an estimated $45.2 billion Medicare payment hospitals in fiscal 1986 by about $2.7 billion; a projected $17.8 billion expenditure for physician services would be cut by about $500 million. About 63% of Medicare savings would come from the hospital cuts and 12% would flow from the extension of the current physician fee freeze.

The proposals, which are part of a $330 billion budget for the Department of Health and Human Services, would hold Medicare cost increases to 2% and Medicaid increases to 3% at a time when enrollees in the two programs are expected to climb by 2% and 1.7% respectively.

The proposals include:

★ A 12 month extension of the physician fee

freeze enacted last summer and scheduled to end October 1. This would apply to both participating and nonparticipating physicians. Estimated fiscal 1986 savings are $500 million.

- ★ A freeze on diagnosis related groups prices for hospitals. Expected savings are $1.8 billion in 1986.
- ★ A cap on payments for direct costs of medical education projected in 1986 to shave about $150 million from payments that currently total about $1 billion.
- ★ The elimination of the current doubling (from 5.795% to 11.59%) of the Medicare adjustment for indirect medical education costs. Estimated savings from the plan are $695 million in fiscal 1986.
- ★ Staged-in increases in Part B premium increases so that by 1990, premiums would cover 35% of program costs. Medicare income would be increased by $334 million in fiscal 1986.
- ★ Cap the fiscal 1986 federal payment to states for Medicaid benefits at $22.2 billion or about $1.3 billion less than projected under current law. A $300 million hardship fund would be created for states that had large cost increases despite efforts to curb costs.

Congressional criticism of the physician fee freeze centers primarily on the belief that it breaks a promise to participating physicians who were to have had potentially higher fee increases at the end of the freeze. HHS Secretary Heckler said she doesn't believe the freeze breaks a promise to the participating physicians and Health and Care Financing Administration head Carolyn Davis, Ph.D., said the freeze delays but does not deny the larger increases.

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Medical Education Cuts Attacked

Medical educators and students say they are "outraged" by a Reagan Administration budget proposal that would "wipe out" federal support of health professions' education and congressional health staffers have told the Administration that the proposal is "politically impossible."

The widely-predicted provision in the just-released fiscal 1986 budget plan followed a Presidential veto of health manpower reauthorization legislation late last fall after Congress had adjourned. Conventional wisdom is that the veto might otherwise have been overridden, and committees with manpower jurisdiction are preparing to reintroduce manpower legislation.

The educational assistance programs the President seeks to terminate include grants for special training programs, assistance to financially disadvantaged and minority students and schools, and nurse training.

No new federal capital would be allocated for Health Professions Student Loans (HPSL), but an estimated $67 million in revolving loan funds administered through 1,400 health professions and nursing schools would remain in circulation. The current $250 million ceiling on Health Education Assistance Loans (HEAL) would be lowered to $100 million.

The budget proposal also would end the National Health Service Corps scholarship program and would reduce funds for NHSC members already in underserved communities by about a third—from $75 million in 1985 to $50 million in FY86. The budget cuts occur despite an expected increase in the number of NHSC practitioners in the field—from 3,102 in 1985 to 3,507 in 1986. Federal officials say the funding shortfall can be made up by continuing efforts to encourage more NHSC scholars to repay their obligation through private practice rather than as federal corpsmen.

In other manpower budget provisions, the maternal and child health block grant would be funded at its 1985 level of $478 million; funding for the Indian Health Service would be reduced by nearly $100 million; health planning funds would be eliminated and federal staff associated with manpower programs would be reduced by the equivalent of about 1,000 full-time positions; a primary care block grant that currently offers an alternative to categorical funding for community health centers would be expanded and "probably" made mandatory.

In justifying the decision to end "federal subsidies" to the health professions, the budget documents point to a "projected national surplus" of physicians and nurses.

Representatives of the medical profession said, however, that the cuts in professional training support are exacerbated by proposed restrictions on guaranteed student loans for all students of higher education. The real impact of the proposal will be to influence the makeup of the medical student population and specialty and geographic distribution rather than to curtain the overall physician supply, they added. James H.

Sammons, M.D., Executive Vice President of the American Medical Association, said the cuts could "endanger the quality of health care in the United States."

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Despite HCFA Budget Cuts, Physician DRG Studies Continue

Federally-funded research into physician payment options will continue despite President Reagan's proposal to cut Medicare-and-Medicaid-related research funds by a third in the fiscal 1986, Health Care Financing Administration officials say.

The proposal to cut HCFA's research and demonstration budget from $33 million in fiscal 1985 to $22 million in fiscal 1986 could force the agency to scale back on studies in some other areas, however. It could also curtail research in the remainder of 1985.

If accepted by Congress, the budget reductions would come just as HCFA officials are struggling to complete a host of congressionally-mandated studies on the extension and refinement of Medicare's diagnostic-related groups (DRGs) payments for hospitals. Some studies, including one on the treatment of capital costs in DRG payments, are already overdue. Others, such as a recommendation on the "advisability and feasibility" of extending DRGs to inpatient physician services, have had the deadline moved up—from December 31, 1985, to July 31.

As a result, HCFA Administrator Carolyne Davis, Ph.D., told reporters at a budget briefing that the 1986 budget recommendation would require the agency to "target" its research efforts on physician payment and the extension of prospective pricing to other parts of the system. Although the research reductions can be justified as part of a larger effort to trim the federal deficit, she added, the cuts do represent a "definite shift."

The announcement of the fiscal 1986 budget request coincided with a solicitation of bids for Medicare and Medicaid studies and demonstrations to be funded in the remainder of 1985. Carried in the January 30 Federal Register, the solicitation outlines areas in which HCFA has an interest and signals the Administration's desire to move away from a system that depends on the number of services provided to one that limits the government's liability to some predetermined amount.

One area in which HCFA is "extremely interested," the solicitation says, is "reforming physician payment methods." Demonstrations could involve the examination of the impact of a Medicare voucher on physician participation, incomes, specialty and location. Or they might center on prospective payments for physicians.

Prospective payment might combine hospital and physician payments, it suggests, or it might package all physician services through areawide budgets, competitive bidding, preferred provider organizations, or risk-sharing with Medicare carriers such as Blue Shield plans.

Other studies of interest to HCFA include those aimed at: finding a better way to adjust within DRGs for differences in the severity of the patient's condition; comparing the medical condition and treatment of patients in physicians offices with those in hospital outpatient or ambulatory settings; examining the effect of hospital DRGs on skilled nursing facilities, home health agencies, rehabilitation facilities, and swing bed services; expanding private risk-sharing for long-term care costs; promoting home care by the family or other community arrangements; designing a new payment for end-stage renal disease patients; and improving the formula used to compute prospective payments to Medicare HMOs.

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Some Preliminary Results Reported

If federal policymakers want to pay physicians by diagnosis, they should start with surgery and make payments to hospital medical staffs rather than to individual physicians, a Massachusetts research firm advised Medicare officials in February.

The advantage of this approach, according to the Center for Health Economic Research, is that it would discourage a growth in physician services said to be responsible for about 40% of recent increases in Medicare Part B expenditures for medical services. Half of all Medicare physician payments—but only a fourth of hospital admissions—would be affected.

Based on 900,000 1982 Medicare claims in Michigan, New Jersey, North Carolina, and Washington, the CHER study is the most extensive look yet at how Medicare's diagnosis-related groups (DRGs) hospital pricing system could be extended to physicians. As such, it is expected to be a critical element in a Health Care Financing Adminis-

tration report to Congress on the "advisability and feasibility" of physician DRGs.

The CHER study is, however, only a part of a body of HCFA-funded research just coming into final form as the agency rushes to meet July's deadline for the report which originally was not due until December. Reported at a conference sponsored by HCFA and Project HOPE, the CHER work is one of a number of studies that raise concerns about physician DRGs.

Two Boston University M.Ds. concluded, for example, that even if refined, DRGs aren't likely to accurately reflect the costs of a particular case. A Virginia firm found that a physician DRG was "at best not unthinkable." And a Project HOPE study warns that adoption of physician DRGs might permanently sidetrack efforts to encourage the growth of HMOs and other capitation plans.

Physician reactors disputed the assumption that physician DRGs will curtail an increasing volume of services and questioned the wisdom of any plan that asks physicians to move from the role of patient advocate to businessman. Several speakers suggested that hospital medical staffs are not well-enough organized to receive and redistribute the DRG payment.

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Durenberger Calls For Medicare Incentives For Nonsmokers

Now shed of the pipe that had become his hallmark, Minnesota Republican Senator David Durenberger wants Medicare beneficiaries to follow his example.

To encourage them, the Senator is proposing that elderly smokers pay higher Medicare premiums than nonsmokers. Such a policy, he argued, would follow private insurers "lead in rewarding those who choose to avoid smoking which unquestionably increases the risk of illness." It could also make a "positive contribution" to "seniors' health" and to the "health bill of the nation."

Called the Medicare Cost Incentives for Non-Smokers (S-357), the bill is part of a package of three measures that Durenberger introduced to "explore the many ways Medicare can be restructured to incorporate the possibilities of prevention." A second bill would raise the Medicare Part B deductible and then permit certain preventive health services to count toward the deductible. The third would fund five Medicare demonstrations to test Medicare coverage of preventive services.

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Professional Liability High On States' Agendas

Nineteen states expect to consider medical malpractice legislation in 1985 and seven states see this as one of the top three health issues they will face this year, according to a new survey by the National Conference of State Legislatures.

The survey ranked care of the medically indigent as the top issue in the states in 1985 and it found several other issues—including long term care and Medicaid reimbursement of physicians and hospitals—that outscored malpractice in terms of the number of states that saw it as a major issue.

Nevertheless, an NSCL official said he believes that medical malpractice "will be on the platter in every state" in the country.

All told, the states anticipate deliberations on about 39 malpractice bills. Thirteen legislatures are likely to consider general limits on malpractice awards and a bill introduced in Colorado would limit malpractice recoveries whenever a second opinion had been obtained. Thirteen states will consider placing ceilings on lawyers fees while 12 may require arbitration of medical malpractice suits. Colorado, Delaware, Florida, Kansas, Michigan, Utah, and Wisconsin ranked malpractice as one of the top three issues the legislatures would face in 1985.

The NSCL survey, which was conducted in November and December of 1984, found that states will consider more than 585 health care cost containment bills in 1985. Forty states responded to the survey.

State Medicaid programs and physician services to these patients also will absorb a great deal of the legislators' attention. Thirteen states identified Medicaid hospital and physician care as top priorities in 1985. Eleven states are expected to consider requiring or encouraging Medicaid recipients to get all their care from a primary care M.D. Six (Alabama, California, Colorado, Indiana, Minnesota, and Oregon) are likely to debate proposals that would require Medicaid patients to go only to physicians under contract to the state. Six states will probably consider contracting with hospitals for services to Medicaid patients. Eight may require prior authorization for all hospital care.

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National Health Policy Group Recommended

The Catholic Health Association has urged President Reagan and Congress to create a 15-member national commission on health policy.

CHA President John Curley told the Washington press corps that the commission's goal would be to "stop the nation's reliance on short-sighted, stop-gap measures that control health care costs without solving the problems that escalate costs."

Commission members, who would serve for three years, would be picked by President Reagan, the Speaker of the House and the President pro tempore of the Senate. Each would name five members consisting of a physician, a health care administrator, another health professional and two members from other fields such as insurance, labor, law, and business.

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Medic Alert Plans Major Expansion

The Medic Alert system, whose members wear metal bracelets to signal potentially hazardous medical conditions, intends in the next two years to develop a medical abstract that could be the basis for a worldwide computerized medical records system.

The two-million member foundation will work with the Defense Department and with medical specialty groups in an effort funded through a $140,000 grant from the Robert Wood Johnson Foundation.

Medic Alert officials, who outlined their plan at a Washington press conference, say their primary interest is to improve and expand their own emergency warning system but they believe that a highly mobile population has created new demands that go far beyond the original Medic Alert concept. They suggest that the AMA/GTE Medical Information Network would be an ideal network for their proposed system but they add that the abstract they are developing will be part of the public domain—available to a wide range of organizations that have an interest in their plan.

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GAO Cites Government Lack In Medicaid Program

The Health and Human Services Department should issue regulations or use financial penalties to improve states' identification of Medicaid patients who also have private insurance or other coverage, according to the General Accounting Office.

A GAO report based on six state Medicaid programs confirmed an HHS estimate that Medicaid may be spending $500 million to $1 billion a year for medical care to Medicaid patients who have other coverage. But it maintained that HHS has not taken all the steps it could to improve state performance in this area. State and federal governments shared in the losses since the federal government contributes from 50% to 78% of total Medicaid spending per state.

In its investigation of Medicaid programs in California, Maryland, Oregon, Pennsylvania, Texas, and Washington, GAO identified several ways in which states could improve their procedures for identifying which Medicaid recipients have other coverage such as private health and auto insurance, workmen's compensation, or military health benefits.

One GAO recommendation would require health care providers to seek payment from other identified insurers before billing Medicaid. Others call on the states to ask Medicaid recipients more specific questions to identify possible insurance coverage beneficiaries may not even be aware of; to ask beneficiaries for the other insurers' name and the policy number; to compare Medicaid files with other data sets such as lists of state employees; and to screen claims such as for broken bones that might be associated with accidents covered by liability insurance.

For the federal government the report recommends two options: (1) strengthen regulations governing state recoveries of other insurance benefits; or (2) reduce federal Medicaid payments to states by the amount that federal officials could have been collected from other insurance programs.

HHS Inspector General Richard Kusserow responded that HHS is working with states to enhance Medicaid collections from other insurers. He claims that stiffer regulation of state collection efforts would not work unless they were associated with financial penalties which could not be imposed without new legislation.

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National Academy Reports On America's Low Birthweights

Health professionals and policymakers must intervene more vigorously to reduce the incidence of low birthweight infants, according to a new National Academy of Sciences (NAS) report.

In the United States, low birthweight babies

represent 6.8% of all live births, an incidence that is higher than at least 12 other developed countries. Low birthweight babies are almost 40 times more likely to die in the first months after birth and are much more likely to suffer from serious diseases or congenital conditions.

Although the proportion of moderately low birthweight infants appears to be declining, there has been no decrease in the proportion of infants with very low birthweights, NAS found. Between 1971 and 1981, the percentage of infants weighing 1,500-2,500 grams fell from 6.50% to 5.64%, but the percentage of infants weighing less than 1,500 grams increased from 1.14% to 1.16%.

"To reduce the incidence of this major cause of infant mortality, we must treat prevention of low birthweight with the same commitment that we devote to the immunization of children against polio or other major diseases," said Richard E. Behrman, M.D., chairman of the NAS committee.

Added Gordon Avery, M.D., chairman of the Department of Neonatology at Washington's Children's Hospital National Medical Center: "It is not biologically necessary to have this much prematurity. We need to start doing for poor folks what we already do for ourselves." Prevention of prematurity is much more efficient than caring for premature infants, he noted.

Moreover, improved prenatal care is cost-effective, NAS found: for a high-risk population of 1.4 million women, each dollar spent on prenatal care can save as much as $3.38 on specialized care for low-birthweight infants.

The NAS report recommended several steps to reduce the incidence of low birthweight infants:

- ★ Improving access to care. State Medicaid programs should attempt to enroll more eligible women, offer earlier and more regular high-quality care, and reimburse for a larger number of prenatal visits. Medicaid also should encourage greater participation by obstetricians and gynecologists.
- ★ Changing the focus of prenatal care toward care that can be provided in the first and second trimesters of pregnancy.
- ★ Improve education about smoking and nutrition, provide for greater accessibility, using telephone consultation, counseling, emotional support and acceptance, and understanding of language and cultural barriers.
- ★ Improve outreach. Messages could stress the problems of low birthweight babies, the benefits of pregancy planning, the risks of smoking and drinking in pregnancy, the importance of good nutritional practices. Television, newspapers and magazines could publicize these messages; school programs would be another natural setting for communicating information to young people.

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NIH Consensus On Travelers' Diarrhea

Rapid institution of treatment can shorten travelers' diarrhea from three to five days to 30 hours or less in most people, according to a National Institutes of Health (NIH) panel of experts.

Travel to high-risk areas of Latin America, Africa, the Middle East, and Asia is associated with 20% to 50% of diarrhea in travelers from more developed countries. Careful dietary and hygenic practices will prevent some, but not all, cases.

Before leaving the U. S. the travelers should obtain two types of drugs: an anti-motility agent and an antimicrobial agent. By obtaining them in advance, the traveler can avoid buying potentially dangerous over-the-counter products and can begin prompt treatment if needed.

For mild diarrhea, the traveler should take an anti-motility agent. Drugs such as diphenoxylate or loperamide were recommended by the NIH panel. Bismuth subsalicylate, which works somewhat slower but is also effective, may also be used. The products come in convenient dosage forms and provide prompt, although temporary, symptomatic relief.

For more serious cases, an antimicrobial drug should be used. These cases—manifested by three or more loose stools in an 8-hour period, often accompanied with nausea, vomiting, abdominal cramps, fever, or blood in the stools—can be shortened to 1 or 1½ days with this type of drug. The NIH panel recommended combining 160 mg trimethoprim and 800 mg sulfamethoxaxole or taking 200 mg trimethoprim alone, twice daily.

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PDQ System Unveiled

At a press conference in February, the National Cancer Institute unveiled "The Physician Data Query," a computer system to provide up-to-date cancer information to physicians across the country.

Any physician with a computer terminal, a keyboard and a telephone hookup can gain access

—for a $50 one-time charge and a $15 additional monthly fee—to the central PDQ computer. The average inquiry will probably cost about $5 or $10, based on the system's $20 average hourly rate.

The user is offered a series of choices: news, cancer information, physician name, and research protocols either a brief summary or a more detailed description of state-of-the-art treatments for 82 major cancers. It also lists 2,000 institutions which have organized programs for cancer patients as well as the estimated 1,000 active treatment studies now underway around the country. If no standard treatment existed, the PDQ user would be referred to ongoing clinical trials.

Many medical groups, including the AMA, fear that the computer's list of physicians will be elevated to "special expert" status simply because of their inclusion in the PDQ system. As a result, some physicians may feel constrained to refer their patients only to persons on the list; similarly, patients who might see the list might question their physician's competence if he has been omitted from the list. General practitioners who provide state-of-the-art treatment are omitted; conversely, some oncologists on the list may not provide the best or newest form of treatment, they note.

NCI concedes that the list is as comprehensive as possible, but not perfect. Simply because a physician's name is on the list does not imply special expertise or NCI endorsement; alternatively, many family practitioners not included in the list may be excellent caretakers of cancer patients, according to NCI. "But the only alternative," said NCI Director Vincent DeVita, Jr., M.D., "was to have no list at all."

The system also has been criticized for preempting journal articles, and thus bypassing the important peer-to-review process to which descriptions of new cancer therapies are subjected.

NCI says that because PDQ contains descriptions of the theories—and preliminary results—of unpublished treatment techniques now under investigation, it can keep doctors better informed. "We may be ahead of the conclusions that a physician would draw upon, based solely on reading of journals," said Dr. DeVita.

An editorial board of 21 physicians meets monthly to review and discuss new treatment and investigational advances, as well as cancer treatments already published in the literature. A board of 51 cancer specialists aids the physician-editors in identifying and reviewing new developments in treatment of the disease.

The AMA has agreed to help NCI evaluate the system.

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Medicare Surveys Charge Quality DRG Problems

Reports that elderly Medicare beneficiaries are being discharged from hospitals "quicker and sicker" since the advent of Medicare's new prospective pricing system are gaining attention in Congress.

Although evidence to date is largely anecdotal, two recent surveys for Congressional Committees on Aging indicate a trend in which elderly patients who still require some type of care are released from hospitals only to discover that alternative services such as nursing homes do not exist in their communities. The concern is particularly acute in rural areas and it is heightened by Reagan Administration proposals to freeze Medicare payments to hospitals.

The two studies for Congress buttress an earlier American Medical Association survey which found that a majority of physicians believe quality is or will be lower under the prospective diagnosis related groups (DRG) system than in the past. Performed by the General Accounting Office and the House Aging Committee's Task Force on the Rural Elderly, both concluded that patients leaving the hospital since the advent of DRGs are sicker than was the case prior to DRGs.

The General Accounting Office study was done at the request of the Senate Aging Committee, whose chairman Sen. John Heinz, R-PA, said the study shows that hospitals are discharging patients "quicker and sicker." In many cases, he added, the patients are going home to a "no-care zone" where alternative levels of care are not available.

The GAO study of six communities (Pittsburgh, Orlando, Richmond, Seattle, Corpus Christi, and Adrian, Michigan) also concluded that nursing homes and home health agencies may deny care to "heavy care" and Medicaid-eligible patients; that many are not properly equipped to take care of the sicker patients they are seeing today; and that shifting care of relatively ill patients outside the hospital will undoubtedly cost beneficiaries more out of pocket and could increase overall costs as well.

The GAO also found that many beneficiaries are "upset and confused" about their Medicare coverage because they have been told improperly

that they must leave the hospital because their Medicare coverage has been exhausted.

The GAO findings were repeated in the House Committee Task Force's survey of state nursing home ombudsmen. Some 77% of respondents said patients are being discharged "sicker or much sicker" than before DRGs. Over half said skilled nursing care is not adequate to meet the needs of discharged patients in rural areas and one-third said this care was inadequate in urban areas.

The surveys prompted hearings in the House Aging Committee, whose chairman Rep. Edward Roybal (D-CA) said at the first of a planned series of DRG hearings that his two major concerns center on the impact of DRGs in rural areas and fears that Peer Review Organizations "are spending most of their limited resources on reducing costs—not assuring health care quality."

Although Health Care Financing Administration officials contended that DRGs may "actually enhance" quality of care, a variety of witnesses for hospitals, physicians and the elderly agreed that rural and inner-city hospitals are already having financial problems that are bound to grow into real quality shortcuts if the Reagan Administration's proposed freeze on hospital and physician payments is enacted.

Dr. James E. Davis, who is Speaker of the AMA House of Delegates, told Roybal that a freeze that leaves out defense programs and singles out payments to physicians and hospitals "is unconscionable." The North Carolina surgeon said "there is an atmosphere of constant change and lack of stability" in the Medicare program and he urged that Congress not extend the system to physicians and other providers before it has examined the results on hospitals and looked at several studies that have not yet been completed.

Both Dr. Davis and Louis Krieger of the American Association of Retired Persons opposed the Reagan Administration's proposal to continue the current freeze on Medicare physician fees for another year. Dr. Davis said a continuation of the freeze could discourage physicians from treating Medicare beneficiaries and would make "physician reimbursement under Medicare the only area under the budget proposals that would be frozen for two years."

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

1985 PEDIATRIC UPDATE

June 7-8, Fairfield Bay. Thirteen hours Category I credit. For more information call Arkansas Children's Hospital — 370-1481.

SEVENTH ANNUAL FAMILY PRACTICE INTENSIVE REVIEW

Presented by Ben N. Saltzman, M.D., *June 28-30,* UAMS Education Building Room G/131 (Friday), Room G/141 (Saturday and Sunday), time to be announced. Approximately 20 hours Category I credit. Registration fee $200.

WHAT IS NEW IN THE TREATMENT OF TYPE 11 DIABETES

Presented by Larry Stonesifer, M.D., *July 16, 7:00 p.m.,* L J's Restaurant, Fayetteville. One hour Category I Credit. Sponsored by UAMS AHEC-NW.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.
Colposcopy-Pap Smear Clinic, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.
Pediatric Conference, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

FAYETTEVILLE — AHEC-NORTHWEST
Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER
Radiology Conference, first and third Thursday, 1:00 p.m., Conference Room.
Pathology Conference, second Thursday, 3:00 p.m., Conference Room.
ICU Lecture Series, June 14 and July 12, 1:30 p.m.
Peer Exchange, June: "Cardiology."

JONESBORO — AHEC-NORTHEAST
AIHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Interesting Case Conference, second Tuesday and fifth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL
Pediatric Radiology Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Respiratory Care Case Conference, each Wednesday, 1:00 p.m., Second Floor Classroom.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Neurology Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
General Pediatric Seminar, each Friday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — BAPTIST MEDICAL CENTER
Surgery Conference, each Monday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Pathology Conference, first, second, fourth and fifth Thursday, 12:00 noon to 1:00 p.m., Pathology Library.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.
Hematology/Oncology Conference, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY
Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Classroom 3, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Classroom 1, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S1174K, Laboratory.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Cancer Conference, fourth Thursday, 12:00 noon to 1:00 p.m., Room S1174K, Laboratory.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES
Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Ed II Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Ed II Building, Room G/106.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
Interhospital GI Problems Conference, first Monday, 6:00 p.m., St. Vincent Infirmary, Classroom 3, Education Wing.
OB/Gyn Grand Rounds, each Wednesday, 4:00 p.m., UAMS Ed II Building, Room G/135.

Mental Health Services Grand Rounds, dates TBA, 10:00 a.m., Arkansas Mental Health Services Administration Building, third floor conference room.
Psychiatry Grand Rounds, each Thursday, 12:00 noon, UAMS Child Study Center Auditorium.
Psychiatry Case Conference, each Friday, 1:00 p.m., UAMS Child Study Center Conference Room.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Ed II Building, Room G/131.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS Ambulatory Care Center Eye Clinic, Room 3/150.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Ed II Building, Room G/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Ed II Building, Room G/135.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Ed II Building, Room G/135.
Orthopaedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Ed II Building, Room G/135.
Arkansas Academy of Pathology, first Wednesday, 5:30 p.m., Coy's Restaurant.
Surgical Science Conference, each Saturday, 8:00 a.m., Ed II Building, Room G/131.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each) at 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, each once monthly, 5:00 p.m., UAMS (dates vary).
VA Psychiatry Service Lecture Series, each Wednesday, 1:00 p.m., NLRVA, Building 170.
VA Medicine Service Teaching Conference, each Monday, 3:30 p.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.

PINE BLUFF — AHEC

Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, June 5 and July 3, 7:00 a.m., St. Michael Hospital.
Chest Conference, July 17, 12:30 p.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME

June 7-9

Organizing a Positive Prospective Reimbursement Destiny. Sponsored by Southern Medical Association. Las Vegas, Nevada. 12 hours Category 1, AMA. Registration: $270 member; $345 nonmember. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 190088, Birmingham, Alabama 35219-0088; telephone 1-800-423-4992.

June 13-15

Arkansas Chapter, The American College of Surgeons. Annual Meeting. Red Apple Inn. Eden Isle.

June 28-29

Training for Health: Prevention and Treatment of Common Athletic Injuries. Sponsored by Southern Medical Association and Trieber Associates, Inc., Washington, D. C. Registration is $350 (including hotel). For further information, contact Trieber Associates, Inc., 9107 Jodale Road, Randallstown, Maryland 21133; telephone 301-655-5062.



PERSONAL AND NEWS ITEMS

DOCTORS PRESENT PROGRAM

Drs. Roger Hill, Anthony White and Joe Teply presented a program on "Fitness Factors and Your Heart" sponsored by St. Bernard's Hospital in Jonesboro.

DR. CAMPBELL ON BOARD

Dr. James Campbell of Hot Springs was recently elected to the board of directors of the Ouachita Memorial Hospital.

DR. JUSTUS IN SEARCY

Dr. Michael Justus, formerly of Malvern, has joined the staff of Searcy Medical Center for the practice of Family Medicine.

DR. HARDEN SPEAKS

Dr. Charles Harden of Hope spoke to the Rotary Club on "Heart Disease."

DR. ARPAYOGLOU DIPLOMATE

Dr. Alex Arpayoglou of Pocahontas has been named a Diplomate of the American Board of Surgery.

DR. LENZ LOCATES

Dr. Jeffery L. Lenz has opened an office for General Practice in Horseshoe Bend.

DR. RATCLIFF PARTICIPATES

Dr. John B. Ratcliff of El Dorado was one of the speakers for a Health Fair recently sponsored by a local television station and the United States Food and Drug Administration. Dr. Ratcliff discussed "Prevention, Diagnosis and Treatment of Pelvic Cancers."

DR. SANDERS CHIEF

Dr. Cal Sanders of Camden is the newly-elected chief of staff at Ouachita County Hospital. Other officers are Dr. James Guthrie, vice chief of staff; Dr. A. E. Thorne, secretary; Dr. C. H. Fohn, chief of Surgery; Dr. J. R. Kendall, chief of Obstetrics.

DR. CAPLINGER HONORED

Dr. Kelsy Caplinger of Little Rock is one of eighteen people to receive a 1985 President's Volunteer Action Award. President Ronald Reagan presented the award to Dr. Caplinger during a luncheon at the White House on April 22. Dr. Caplinger won the award for the health category for his work with the Aldersgate Camp. There were 1,800 nominees for awards in 10 categories. Dr. Caplinger is the first physician winner of the award.

BABYSITTING COURSE

Dr. and Mrs. Charles Mabry of Pine Bluff discussed home safety during a class of Good Emergency Mother Substitute for babysitters. Dr. Bryan L. Burke, Jr., also of Pine Bluff, discussed Pediatric Emergencies. The classes were sponsored by the Jefferson County Medical Society Auxiliary.

DR. PLEMMONS LOCATES

Dr. Lloyd H. Plemmons has moved to Cherokee Village. Dr. Plemmons is a Family Physician.

DR. WARREN APPOINTED

Dr. George W. Warren of Smackover has been appointed to the Committee on Minority Health Affairs of the American Academy of Family Physicians.

DR. FISHER SPEAKS

Dr. T. M. Fisher of Newport spoke on the "Dangers of Drug Abuse" at a recent meeting of the Newport Cub Scouts.

DR. LANG GUEST SPEAKER

Dr. Nicholas Lang of Little Rock was guest speaker at the annual dinner of the Howard County Unit of the American Cancer Society.

DR. ISELY IN WALDRON

Dr. Art Isely has opened an office in Waldron. Dr. Isely interned at Baptist in Little Rock and completed a residency at Lutheran Medical Center in St. Louis.

DR. BODEMANN ELECTED CHIEF

Dr. Michael Bodemann has been appointed chief of staff at Ouachita Memorial Hospital in Hot Springs. Dr. James Campbell is vice chief of staff and Dr. Thomas Hollis is secretary of the executive committee.

DR. HILLER APPOINTED

Dr. F. Charles Hiller of Little Rock has been appointed Chief of the Pulmonary Division of the Department of Medicine at the University of Arkansas for Medical Sciences. Dr. Hiller will be responsible for the Pulmonary Division at the University and the John L. McClellan Memorial Veterans Hospital and the Pulmonary Fellowship Program. He will continue to serve as medical director of the Sleep Disorders Center, the Respiratory Therapy Department, the Medical Intensive Care Unit and the Pulmonary Function Laboratory at the University.



OFFICERS OF THE MEDICAL STUDENT COMPONENT SOCIETY

Officers of the Medical Student Component Society for 1985 are: (left to right) Susan Rebsamen, vice-president; Lance Lincoln, delegate to the Arkansas Medical Society; Kent Nunnally, secretary-treasurer; E. J. Chauvan, alternate delegate to Medical Society; and Steve Schexnayder, president.

DR. WEBER SPEAKS

Dr. James R. Weber, chairman of the Medical Society's Committee on Medical Legislation, spoke at a recent meeting of the Pulaski County Medical Society on "1985 Arkansas General Assembly Actions and a Look Ahead."

MEDICAL STAFF ELECTED

Dr. Paul Wills of Fort Smith is the newly-elected vice chief of staff at Sparks Regional Medical Center; Dr. Donald L. Patrick is secretary. Chiefs of the various medical services are: Dr. Homer Ellis, Obstetrics and Gynecology; Dr. William Griggs, Neurology; Dr. Al Hathcock, Orthopaedics; Dr. Joe Dorzab, Psychiatry; Dr. Jerry Lenington, Anesthesiology; Dr. E. C. Moulton, Jr., EENT; Dr. Louay Nassri, Pediatrics; Dr. David Nichols, Medicine; Dr. Wendell Ross, Family Practice; Dr. Rex Russell, Radiology; Dr. William Turner, Oncology; Dr. Michael Westbrook, Emergency; Dr. Tom Williams, Cardiology; Dr. S. K. Wilson, Urology; Dr. Leon Woods, Surgery; and Dr. Roy Girkin, Pathology.

DR. COSTALDI FELLOW

Dr. Mario E. Costaldi of Rogers has been named a Fellow of the United States Section of the International College of Surgeons.

DR. BASKERVILLE CHIEF

Dr. Jerry Baskerville is the new chief of staff at North Logan Memorial Hospital in Paris.

DR. SMITH HONORED

Dr. Norman K. Smith of Pocahontas retired from medical practice on March 28th. His retirement ended 74 years of medical service to the community by his family. Dr. Smith's uncle, Dr. R. O. Smith, moved to Randolph County in 1911 to begin medical practice and was joined in 1913 by Dr. Norman Smith's father, Dr. J. Erskin Smith.



DR. STEPHEN M. SOLTYS

Dr. Soltys has joined the Baxter County Medical Society. He was born in Harvey, Illinois.

Dr. Soltys received a Bachelor of Science degree in Biology in 1976 from the University of Illinois. He studied in the University of Illinois Master's Program for one year. He was graduated from the Southern Illinois University School of Medicine in 1980. His internship and residency in Psychiatry were with the same institution. Dr. Soltys served as chief resident from July 1983 to December 1983.

Dr. Soltys, a Psychiatrist, is a staff physician with the Ozark Regional Mental Health Center in Mountain Home.

DR. A. D. HALL

Dr. Hall has joined the Conway County Medical Society. He was born in Riverside, California.

Dr. Hall is a 1974 graduate of the Arkansas Polytechnic College. He received his medical degree in 1978 from the Autonomous University of Guadalajara. His internship was with R. E.

Thomason General Hospital in El Paso, Texas.

Dr. Hall was a general medical officer in the United States Army. He served at the White Sands Missle Range in New Mexico from 1981 to 1983.

He moved to Morrilton in May 1984 for the General Practice of Medicine at 601 South Moose Street.

DR. JAMES L. MILLER

Dr. Miller is a new member of the Crittenden County Medical Society. He is a native of Brinkley.

Dr. Miller received a Bachelor of Science in 1965 from Little Rock University and a Master of Science from the University of Minnesota in 1969. He is a 1973 graduate of the University of Arkansas College of Medicine. His internship was with University Hospital and his residency was with Charity Hospital in New Orleans, Louisiana.

Dr. Miller has previously practiced in Little Rock. He moved to West Memphis in 1980.

Dr. Miller is associated with the Hamilton Clinic at 300 South Rhodes in West Memphis for the practice of Family Medicine.

* * * *

The Garland County Medical Society has five new members:

DR. JOHN H. CRABTREE

Dr. Crabtree was born in Mountain Home. His pre-medical education was with the State College of Arkansas and the University of Arkansas in Little Rock. He is a 1975 graduate of the University of Arkansas College of Medicine.

Dr. Crabtree served his internship in straight surgery and his residency in General Surgery with the University Medical Center. He served as an Assistant Professor of Surgery at the University from 1980 to 1984. From 1982 to 1984, Dr. Crabtree was vice chief of the Surgical Burn Service at Arkansas Children's Hospital and a staff surgeon at the University from 1982 to 1984. He was also a consulting surgeon at the Little Rock Veterans Administration Medical Center. He is board certified in Surgery.

Dr. Crabtree is associated with the Hot Springs Surgery Clinic at 236 Central in Hot Springs.

DR. SUDHIR K. PANDIT

Dr. Pandit, a native of Poona, India, was graduated from the Christian Medical College, Madras University in Vellore, India, in 1972. His internship was with the Christian Medical College from 1972 to 1973 and at Prince George's General Hospital in Cheverly, Maryland, from 1979 to 1980. Dr. Pandit served a residency in Internal Medicine at Prince George's. He completed a Fellowship in Cardiology at the District Columbia General Hospital in 1984.

He is board certified in Internal Medicine.

Dr. Pandit is associated with The Heart Clinic at 2513 Malvern Avenue in Hot Springs.

DR. BRENDA NORTON POWELL

Dr. Powell was born in Harrison. She is a 1976 graduate of the University of Arkansas at Monticello and a 1980 graduate of the University of Arkansas College of Medicine.

Her training in Obstetrics-Gynecology was with the University. She served as an instructor in the Obstetrics-Gynecology Department from 1983 to 1984.

Dr. Powell practices Obstetrics and Gynecology at 225 Linden in Hot Springs.

DR. RAJESH K. SHROFF

Dr. Shroff is a native of Bombay, India. His pre-medical education was with the M.S. University; he is a 1978 graduate of the Medical College at Baroda University in Baroda, Gujarat, India.

Dr. Shroff trained in Internal Medicine at Bronx Lebanon Hospital Center in Bronx, New York. He served as chief resident in Internal Medicine from April to June 1983. He also served a Cardiology Fellowship from 1982 to 1984. Dr. Shroff is board certified in Internal Medicine.

Dr. Shroff is associated with The Heart Clinic at 2513 Malvern in Hot Springs.

DR. CHARLES C. WRIGHT

Dr. Wright, a native of Columbus, Ohio, was graduated with high honors from the University of Arkansas at Fayetteville in 1974. He is a 1978 graduate of the University of Arkansas College of Medicine.

His internship was with the University Medical Center. Dr. Wright also received training in General Surgery from 1979 to 1980 and in Urology from 1981 to 1984.

Dr. Wright practices Adult and Pediatric Urology at 903 West Grand in Hot Springs.

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DR. TERRY R. SMITH

Dr. Smith, a new member of the Independence County Medical Society, was born in Little Rock.

He is a 1976 graduate of the Arkansas State University and a 1980 graduate of the University of Arkansas College of Medicine. Dr. Smith

trained in Family Practice with the Area Health Education Center in Fort Smith. He completed a residency in Internal Medicine at the University of Tennessee Hospitals in Memphis.

Dr. Smith specializes in Internal Medicine. His office is at 501 Virginia Drive in Batesville.

DR. H. M. ATTWOOD

Dr. Attwood has joined the Jefferson County Medical Society. He was born in Rison.

Dr. Attwood received his pre-medical education at Henderson State College. He received a Bachelor of Science in Pharmacy from the University of Arkansas College of Pharmacy in 1975. He is a 1981 graduate of the University of Arkansas College of Medicine. Dr. Attwood served a Family Practice residency with the Area Health Education Center in Pine Bluff.

He is associated with the AHEC at 1421 Cherry in Pine Bluff for the practice of Family Medicine.

DR. CARL A. HYMAN

Dr. Hyman is another new member of the Jefferson County Medical Society. He was born in Oklahoma City.

Dr. Hyman is a 1972 graduate of Arkansas AM&N College and a 1979 graduate of the Meharry Medical College in Nashville. His training in Obstetrics and Gynecology was at Mount Sinai Medical Center in Milwaukee, Wisconsin, and the Mt. Sinai Hospital in Hartford, Connecticut. He is a Junior Fellow of the American College of Obstetrics and Gynecology and a member of the Gynecologic Laser Society.

Dr. Hyman practices Obstetrics and Gynecology at 121 East 4th Avenue in Pine Bluff.

DR. KENNETH A. MARTIN

Dr. Martin, a native of Rison, has also joined the Jefferson County Medical Society.

He was graduated from the University of Arkansas at Fayetteville in 1974 and the University of Arkansas College of Medicine in 1978. His internship in Surgery and his residency in Orthopaedics were at the University Hospital.

Dr. Martin is an instructor in the Department of Orthopaedics at the University and a staff Orthopaedist at the Little Rock Veterans Administration Medical Center.

Dr. Martin's office address is 1801 West 40th in Pine Bluff. He specializes in Orthopaedics.

DR. WROTEN McQUIRTER, JR.

Dr. McQuirter, a native of Clinton, Mississippi, has joined the Jefferson County Medical Society.

He received his Bachelor of Science in Chemistry from Tougaloo College in Tougaloo, Mississippi. Dr. McQuirter is a 1977 graduate of Meharry Medical College School of Medicine in Nashville. His postgraduate training was with Meharry's Hubbard Hospital in Nashville.

Dr. McQuirter practices General Surgery at 2526-B East Harding in Pine Bluff.

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The Pulaski County Medical Society has six new members:

DR. SIDNEY P. HAYES

Dr. Hayes, a native of Memphis, Tennessee, received her Bachelor of Science degree from Arkansas State University at Jonesboro in 1971. She is a 1976 graduate of the University of Arkansas College of Medicine.

Dr. Hayes served a flexible internship at the University and Baptist Medical Center in Little Rock. Her residency was with the Department of Medicine at the University. Dr. Hayes also trained in Pulmonary Medicine from January 1982 through December 1983 with the Division of Pulmonary and Critical Medicine at the University. She is certified by the American Board of Internal Medicine.

Dr. Hayes practices Pulmonary Medicine at 890 Medical Towers Building in Little Rock.

DR. DON C. HIGGINS

Dr. Higgins was born in Oklahoma City, Oklahoma. He received a Bachelor of Science degree from Cornell University in Ithaca, New York, in 1950. He is a 1955 graduate of the State University of New York School of Medicine in Buffalo.

His internship in Medicine was with Bellevue Hospital (a Division of Cornell University) in Manhattan, New York City. Dr. Higgins trained in Neurology at the National Naval Medical Center in Bethesda, Maryland, from 1956 to 1958.

Dr. Higgins was a staff Neurologist with the Neuropsychiatry Service at the United States Naval Hospital in St. Albans, New York, from 1958 to 1960.

He trained at Yale University School of Medicine as a Special Fellow in Neurosurgery in the United States Public Health Service from 1960 to 1961. Dr. Higgins was associated with the Neurology Department of the Yale University School of Medicine and served as an attending Neurologist at the Yale-New Haven Hospital, New Haven, Connecticut, from 1960 to 1971. He practiced with Medical Neurology Associates in New Haven from 1971 to 1983.

Dr. Higgins is board certified in Neurology. He is on the staff of The Neurology Service at the Veterans Administration Hospital in Little Rock.

DR. J. TIMOTHY HODGES

Dr. Hodges, a native of Jonesboro, was graduated from the Arkansas State University in 1973. He is 1977 graduate of the University of Arkansas College of Medicine. His training in Family Practice was with the University of Oklahoma, Tulsa Medical College, from 1977 to 1980.

He practiced in Tulsa from 1980 to 1984. Dr. Hodges is certified by the American Board of Family Practice.

Dr. Hodges practices Family Medicine at 500 South University in Little Rock.

DR. STEVEN W. STRODE

Dr. Strode was born in Dallas, Texas. He is a 1969 graduate of the Southern Medical University in Dallas and a 1974 graduate of the University of Texas Southwestern Medical School in Dallas.

His training in Family Practice was with the University of Arkansas College of Medicine in Little Rock from 1974 to 1977. He is board certified in Family Practice.

Dr. Strode practices Family Medicine at 1308 East Kiehl in Sherwood.

DR. GERALD N. WEISS

Dr. Weiss was born in New Orleans, Louisiana. He received his Bachelor of Science degree and his Medical Degree in 1945 from the Tulane University School of Medicine. His rotating internship was with Touro Infirmary in New Orleans from 1945 to 1946.

He was a member of the United States Army from 1946 to 1948.

Dr. Weiss served a Surgery Fellowship for one year with Tulane University. He served a General Surgery residency at Touro Infirmary from 1949 to 1951. He is board certified in Surgery.

Dr. Weiss was in private practice in Lake Charles, Louisiana, from 1951 to 1979. He served with the United States Air Force from 1979 to 1984.

Dr. Weiss, a General Surgeon, is on the staff of the Veteran's Administration Center in North Little Rock.

DR. ROBERT C. WOODY

Dr. Woody is a native of Swindon, England. He is a 1973 graduate of the Texas A&M University at College Station, Texas, and a 1977 graduate of the Southwestern Medical School in Dallas.

He trained in Pediatrics at Children's Medical Center and Parkland Memorial Hospital in Dallas from 1977 to 1979. He was a resident in Neurology from 1979 to 1980 at Parkland Memorial Hospital. Dr. Woody served a two-year Fellowship in Child Neurology at Parkland Memorial Hospital and the Children's Medical Center. He is board certified in Pediatrics and Neurology and Psychiatry with special competency in Child Neurology.

Dr. Woody had a private practice for Neurology and Pediatrics in Mena from 1982 to 1983. During that time, he also served as a consultant in Child Neurology for Holt-Krock Clinic in Fort Smith and for Children's Clinic in Hot Springs. He also served as an Assistant Professor of Pediatrics and Neurology at the University of Arkansas for Medical Sciences in 1983.

Dr. Woody is associated with the Arkansas Children's Hospital in Little Rock in the practice of Child Neurology.

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DR. D. MICHAEL CARTER

Dr. Carter has joined the Sebastian County Medical Society. He was born in Des Arc.

Dr. Carter is a 1977 graduate of the University of Arkansas at Monticello and a 1981 graduate of the University of Arkansas School of Medicine. He completed a Family Practice residency with the University of Arkansas Area Health Education Center in Fort Smith.

Dr. Carter has joined Cooper Clinic at Waldron Road and Ellsworth in Fort Smith for the practice of Family Medicine.

DR. JOHN L. LANGE

Dr. Lange, another new member of the Sebastian County Medical Society, was born in Muskogee, Oklahoma. He is a 1975 graduate of the University of Oklahoma College of Medicine.

His internship was with Parkland Hospital in Dallas. Dr. Lange served a residency at the University of Texas Southwestern Medical School in Dallas.

He has joined the staff of Holt-Krock Clinic at 1500 Dodson in Fort Smith for the practice of Urology.

DR. THOMAS J. DUFFY

Dr. Duffy has joined the St. Francis County Medical Society. He was born in Chicago, Illinois.

Dr. Duffy received a Bachelor of Sciences degree in Natural Science from Loyola University in Chicago in 1966. He is a 1970 graduate of Loyola University, Stritch School of Medicine. His in-

ternship for General Surgery was with Illinois Masonic Medical Center in Chicago and his residency in Urology was with the University of Illinois in Chicago. He is board certified in Urology.

He practiced in Keokuk, Iowa, from 1975 to 1979 and in Havre, Montana, from 1979 to 1984. Dr. Duffy has also served as an instructor at the University of Illinois Abraham Lincoln School of Medicine. Dr. Duffy practices at 1600 Lindauer Road in Forrest City.

DR. FRANK B. McCUTCHEON, JR.

Dr. McCutcheon, a native of Little Rock, has joined the Washington County Medical Society.

He is a 1974 graduate of the University of Arkansas in Fayetteville and a 1978 graduate of the University of Arkansas College of Medicine. Dr. McCutcheon served an internship in General Surgery from 1978 to 1979 and a General Surgery residency at the Medical Center from 1979 to 1982. His training in Plastic Surgery was with North Carolina Baptist Hospital, a Bowman-Gray Affiliated Hospital, in Winston-Salem, from 1982 to 1984. He also served a Hand Surgery fellowship at the University of Arkansas Medical Center from July 1984 to December 1984.

Dr. McCutcheon served as a clinical instructor in Plastic Surgery at North Carolina Baptist Hospital. He is an instructor in Hand Surgery at the University of Arkansas College of Medicine.

Dr. McCutcheon has joined Dr. James Beckman at 3000 Market in Fayetteville for the practice of Plastic Surgery.

DR. LOUIS E. MIRE

Dr. Mire, another new member of the Washington County Medical Society, was born in Baton Rouge, Louisiana. He is a 1969 graduate of the Southeastern Louisiana University and a 1973 graduate of the Louisiana State University School of Medicine in New Orleans.

Dr. Mire served his internship with Charity Hospital and the Louisiana State University Medical Center. He also completed a residency in Orthopaedics at LSU Medical Center.

Dr. Mire was a member of staff of the JoEllen Smith Hospital in New Orleans from 1977 to 1983 and of St. John's Hospital in Springfield, Missouri, from 1983 to 1984. He held a clinical teaching appointment with the Emergency Medicine residency program at Charity Hospital in New Orleans. He is a clinical instructor in Emergency Medicine with the Area Health Education Center program.

Dr. Mire joined the staff of the Washington Regional Medical Center in Fayetteville in 1984 for the practice of Emergency Medicine.

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RESIDENT MEMBERS

DR. MATTHEW J. COLEMAN

Dr. Coleman is a 1982 graduate of Baylor College of Medicine in Waco, Texas. Dr. Coleman is a resident of Internal Medicine at the University of Arkansas College of Medicine.

DR. ROBERT G. VALENTINE, JR.

Dr. Valentine is a 1982 graduate of the University of Arkansas College of Medicine. He is an Anesthesiology resident at the Medical Center.

DR. CLAIRE WALTMAN

Dr. Waltman is a 1983 graduate of the Louisiana State University School of Medicine in Shreveport.

She is a resident of Internal Medicine at the University of Arkansas College of Medicine.





OBITUARY

DR. C. S. CADWALLADER, III

Dr. Cadwallader of North Little Rock died March 20th. He was born November 1, 1944, in Dallas, Texas.

Dr. Cadwallader received his Bachelor of Science degree in 1966 and his Master of Science degree in 1969 from Baylor University in Waco, Texas. He was a 1980 graduate of the Louisiana State University School of Medicine in Shreveport. His training in Medicine and Surgery was with St. Paul Hospital in Dallas from July to December 1980. He trained in Physical Medicine and Rehabilitation at Parkland Memorial in Dallas from 1981 to 1983.

Dr. Cadwallader was associated with Psysiatry Associates in Little Rock.

Dr. Cadwallader is survived by his wife, Naomi

Hipwell Cadwallader, and two sons. Memorials may be made to the Arkansas Eye and Kidney Bank.

DR. GEORGE S. NAPPER

Dr. Napper of North Little Rock died April 6, 1985. He was born December 10, 1918, in Malden, Missouri.

Dr. Napper was a 1940 graduate of the St. Louis College of Pharmacy and a 1947 graduate of the University of Arkansas College of Medicine.

He practiced in McCrory from 1948 to 1953 and served in the United States Air Force from 1953 to 1955. Dr. Napper had also served as the physician for the city of North Little Rock and as a trustee of the North Little Rock Police Pension and Relief Fund.

Dr. Napper is survived by his wife, Peggy Johns Napper, one son and one daughter. Memorials may be made to the Laman Public Library at North Little Rock.

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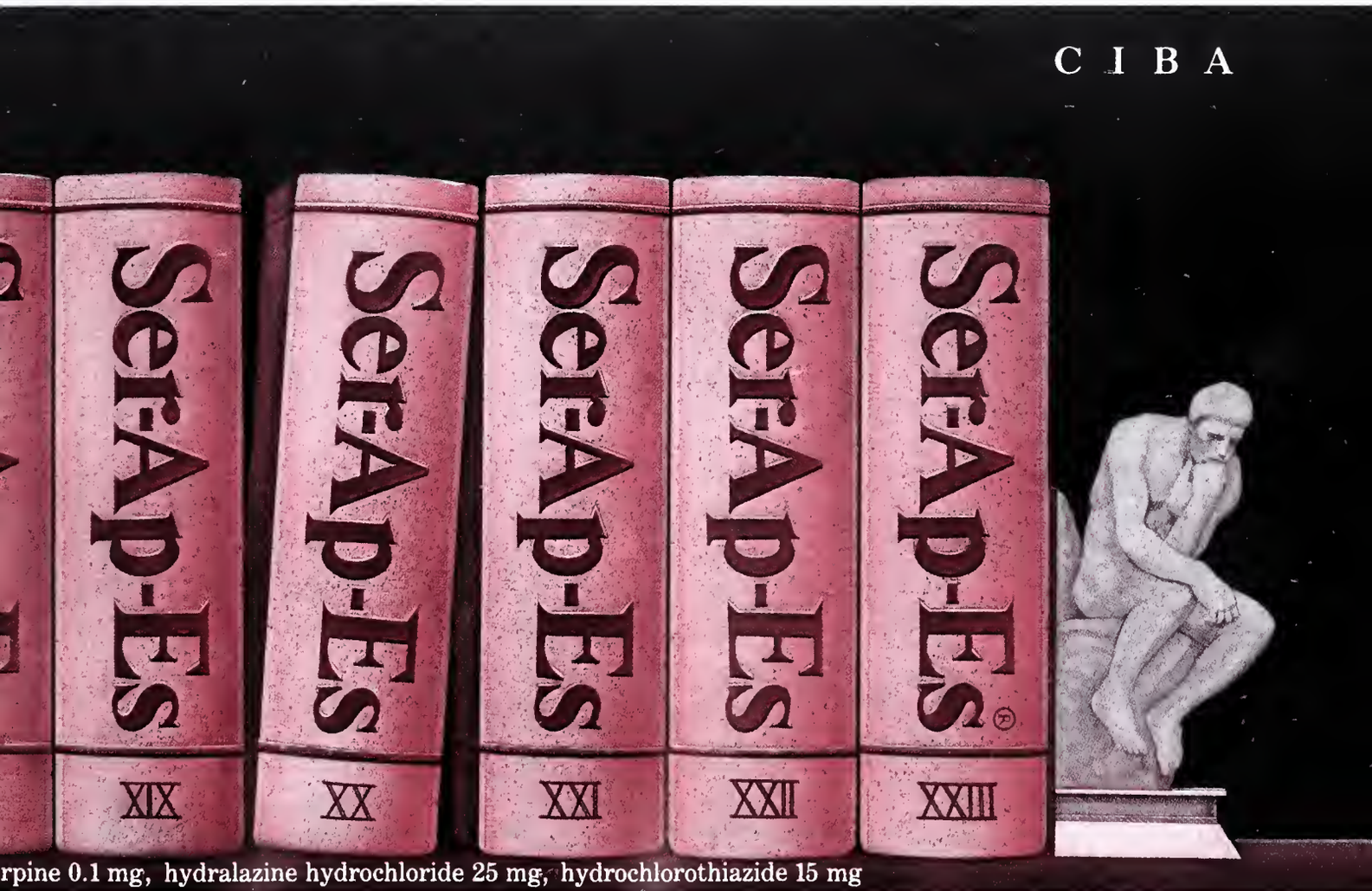
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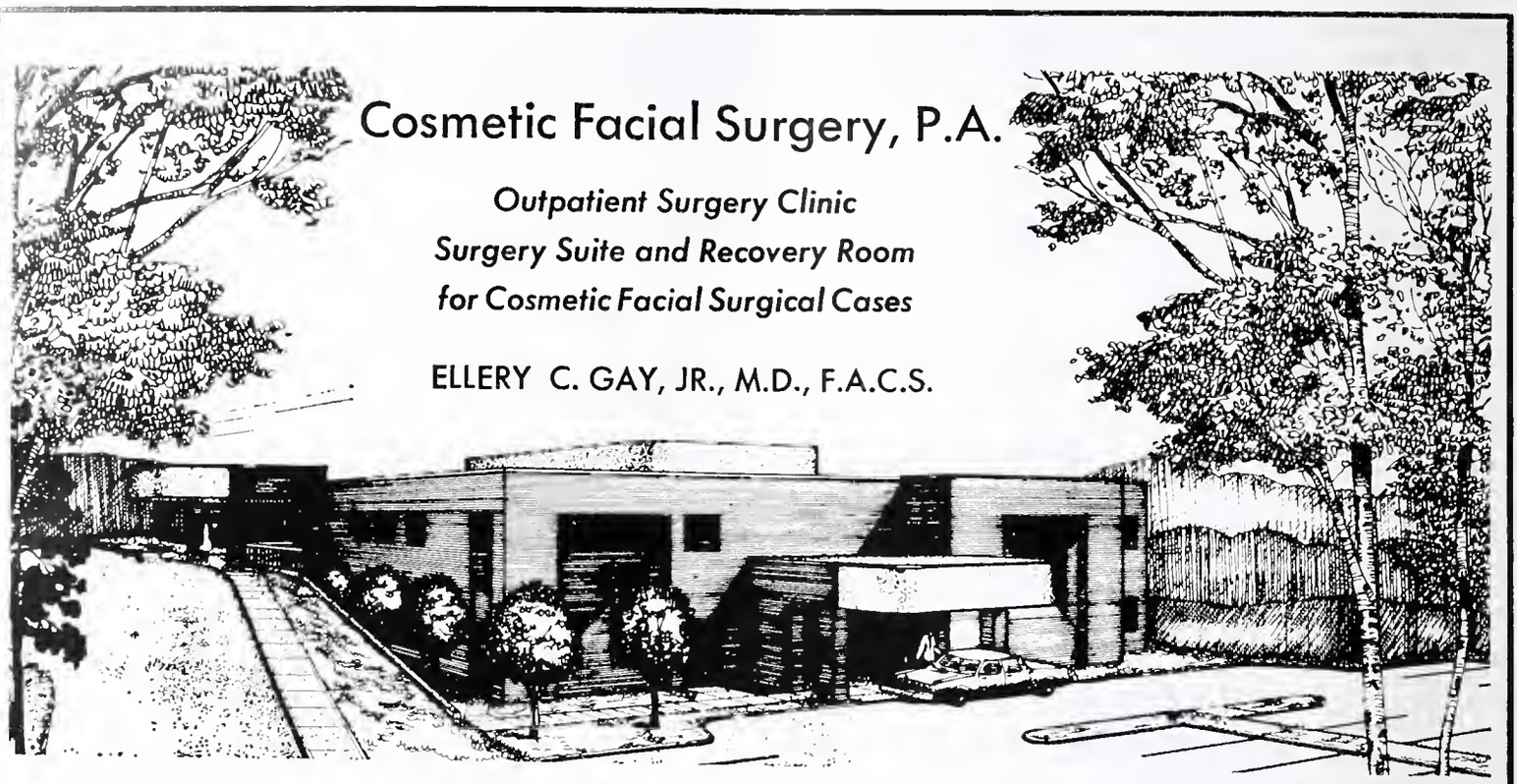
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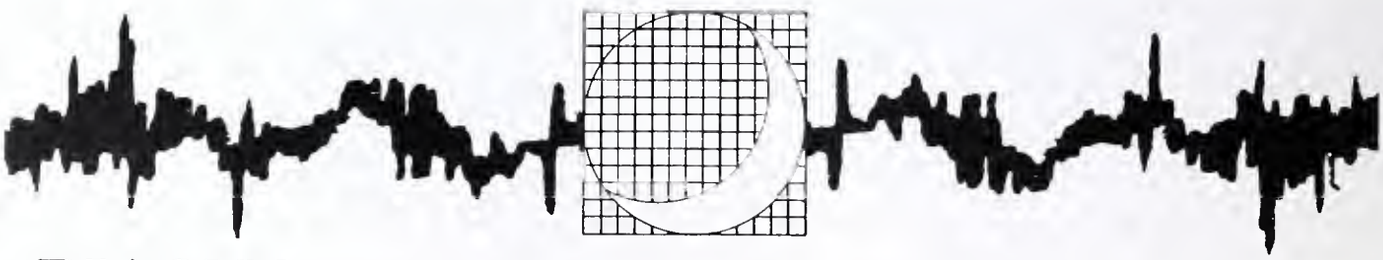
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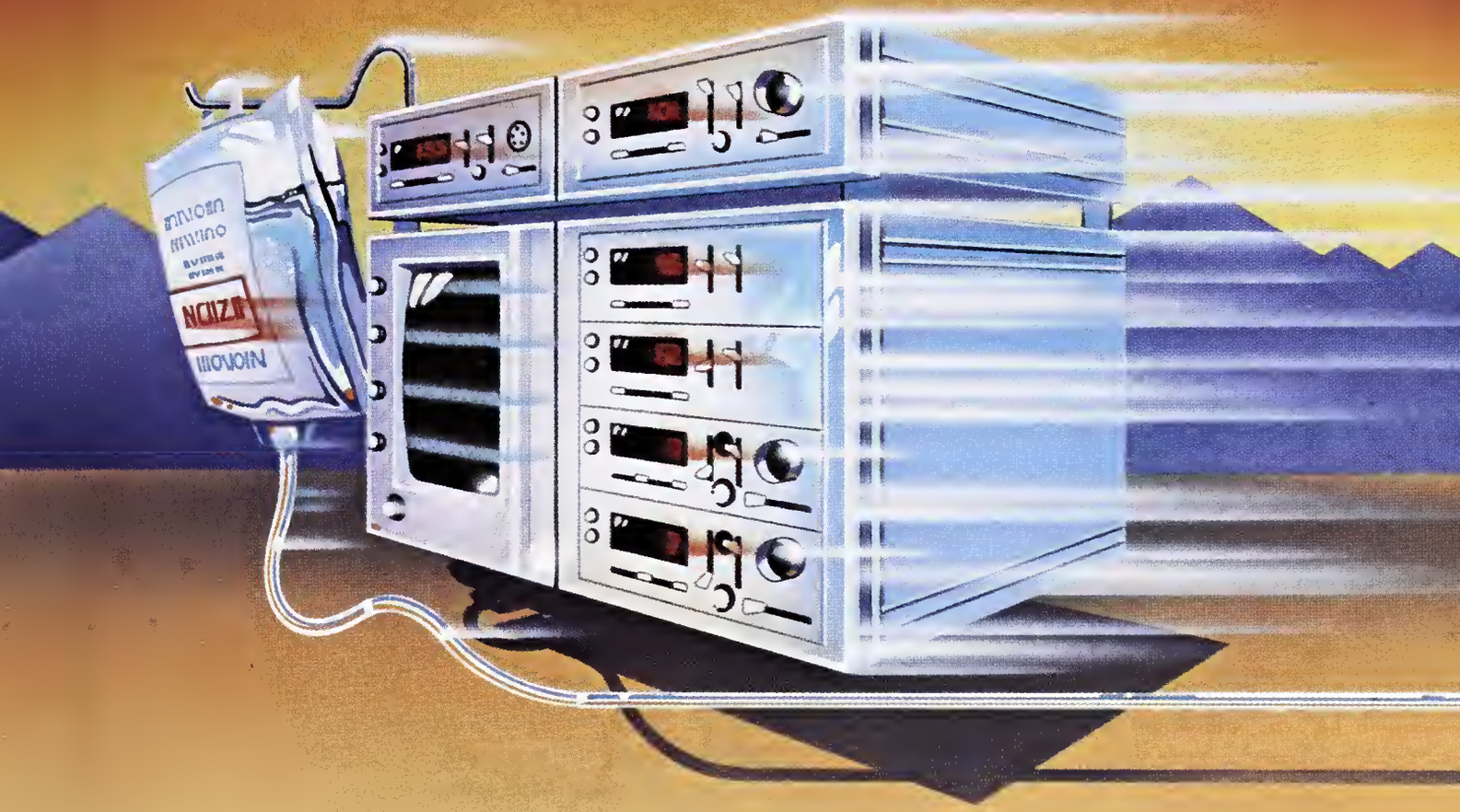
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BEARDEN. An excellent opportunity exist for a family physician. The town is currently without a physician and the nearest medical care is 15 miles away. The city owned clinic is capable of housing two physicians and is available. The local ambulance service provides emergency transportation to surrounding hospitals. Area hospitals include: 51 bed Dallas County Hospital, 14 miles away in Fordyce, Ouachita County Hospital with 150 beds, 16 miles away in Camden. The community is 81 miles south of Little Rock with a population of 1,191 with a service area of 3,500.

BLYTHEVILLE. Blytheville has a population of approximately 25,000 with a trade area population approximately 70,000-100,000. Blytheville is located in northeast Arkansas approximately 60 miles north of Memphis, Tennessee on Interstate 55. There is a definite need for another pediatrician. Although there are two full-time pediatricians in Blytheville, approximately one-third to one-half of the pediatric care occurs outside the Blytheville area. One of the pediatricians is interested in having a partnership immediately.

The area is also in need of an internist. Office space is available and this practice opportunity includes a partial salary arrangement which will be explained on visitation. Blytheville currently has 26 practicing physicians and a 186 bed hospital. An expansion program is underway which will include a CT scanner, additional facilities and space needed for expansion in the nuclear medicine area as well as the radiology department.

CHEROKEE VILLAGE. Population 4,500, county population of 14,600. Cherokee Village is located in the scenic foothills of the Ozark Mountains. Opportunity exist for a general surgeon with financial arrangements tailored to the needs of the physician. There are currently 3 family physicians in the community. The Eastern Ozarks Community Hospital has 10 acute care beds and 60 long-term care beds. The hospital has a well equipped emergency room and a comprehensive range of support services including radiology, dietary, laboratory and pharmacy. Tertiary care and continuing medical education are located an hour away in Jonesboro which is the regional medical center for northeast Arkansas.

DUMAS. Population 7,000 with a trade area population of 30,000. Seven physicians now practice in Dumas and are aiding in the effort to obtain additional general and family practitioners, an internist, an obstetrician/gynecologist and a pediatrician. New ultra modern facilities are near the 50 bed hospital. Dumas is 40 miles from Pine Bluff and 80 miles from Little Rock.

FORDYCE. Population 5,200; trade area population approximately 18,000. Opportunity exist for a family physician to locate in Fordyce and share an office building with another family physician. Other office space is available. Also needed is a general surgeon, internist, and an obstetrician/gynecologist. Three family physicians currently practice in Fordyce. The town has a 51 bed general hospital and two skilled nursing homes.

GREERS FERRY. The city of Greers Ferry is currently recruiting a family practice physician. Greers Ferry is located in Cleburne County, population 17,000 is a vacation paradise known as the heart of Greers Ferry Lake. A 1,500 square foot clinic facility is available for lease and includes x-ray, lab, and a minor trauma room. The Greers Ferry Emergency Fund Association has a volunteer ambulance service financed solely by donations and memorials and services are generally provided to the nearest medical facility at no charge. Area hospitals include a 54 bed acute care facility located 25 miles away in Heber Springs with a full range of medical services, Van Buren County Hospital in Clinton (32 beds, 23 miles away), White River Medical Center in Batesville (106 beds, 40 miles away), and Gray's Hospital in Batesville (51 beds, 40 miles away). The Little Rock area is a mere 78 miles away.

VILONIA. Population 1,000 with a trade area population of approximately 6,000. The community is located 30 minutes from Little Rock and currently has no physician coverage. Financial assistance and office space is available.

For additional information, contact the Physician Placement Service, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72902.

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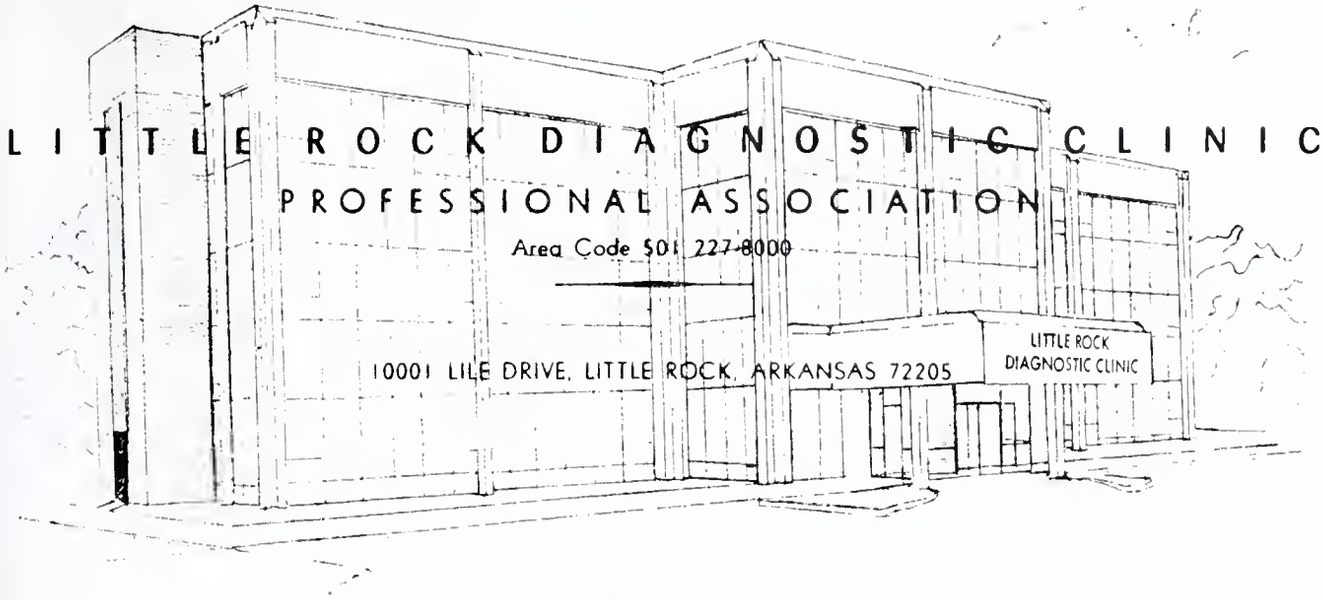
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